Issue 53
PS
1957 Series
THE PREVENTIVE MAINTENANCE MONTHLY
In The Spring A Young Man's Fancy Turns To... Maintenance

PS THE PREVENTIVE MAINTENANCE MONTHLY

Issue No. 53 1957 Series

Published by the Department of the Army for the information of organizational maintenance and supply personnel. Distribution is made through normal publication channels. Within limits of availability, older issues may be obtained direct from Preventive Maintenance Agency, Raritan Arsenal, Metuchen, New Jersey.

TWO TANKS

Connie saw two tanks the other day. They must've been about the same age—serial numbers almost identical. But were they different! I'll tell you, Man. One looked like it had been through the wars. It'd seen its best days. But the other . . . now there was a tank that was **the most.** It was spic 'n span and purred like a kitten. She was adjusted and tuned and pampered and cared for like nobody's business. Didn't look like the other one at all.

The not-so-funny thing about it was that these two tanks had been through the same service. The only difference was they had belonged to different next-door outfits. One outfit had been careless of its preventive maintenance. Result: One tank ready to be scratched.

The other outfit knew that preventive maintenance was **the most.** So, their tank (and all their tanks) was real on-the-ball and ready to fight when needed. Just like **your** tank (or gun or truck or whatever you've got). If you keep up your everyday preventive maintenance, that is.

IN THIS ISSUE

FEATURE ARTICLES

Blank Firing Attachment VS. Short-Round Stop 2
Skysweeper Maintenance 6
Tank Talk 16
Battery Stand-In 23
5-Ton Dipsticks 25
Signals for Scraper Operators 50
DD Form 110 for Stationary Equipment 54
Cummins Generators 58

DEPARTMENTS

Connie Rodd 26
Half-Mast 38
Chemical 42
Quartermaster 46
Engineer 50
Contributions 62
Connie Rodd's Briefs 65

PS wants your ideas and contributions, and is glad to answer your questions. Just write to: **Sgt Half-Mast, PS, Raritan Arsenal, Metuchen, New Jersey.** Names and addresses are kept in confidence.

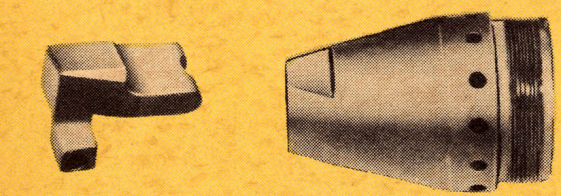
The printing of this publication has been approved by the Director of the Bureau of the Budget (27 Apr 56). DISTRIBUTION: ACTIVE ARMY: Gen Staff, DA (1) except DCSPER (2), DCSLOG (10); SS, DA (1); Tec Svc, DA (5) except COFENGR (75), COFORD (275), TQMG (25); Admin & Tec Svc Bd (5); Hq CONARC (10); OS Maj Comd (5); OS Base Comd (3); MDW (5); Armies (50); Corps (3); Div (2) except Armd Div (100); Brig (3); Regt/GP (3); Bn (5); CO (15) except Med Co (5); Ft & Cp (6); Gen & Br Svc Sch (5) except Engr Sch (100), Ord Sch (25), QM Sch (25); USMA (25); Joint Sch (5); Specialist Sch (5); PMST (3) except PMST Ord ROTC Units (25); Gen Depots (5); Sup Sec, Gen Depots (5); Depots (5); Ord Tk Autmv Comd (100); AH (5); US Army Tng Cen (100); Sandia Base, AFSWP (10); Trans Terminal Comd (3); Army Terminal (3); OS Sup Agencies (2); POE (OS) (3); PG (5); Arsenals (25); CMLCMATCOM (25); DB (25); Engr Maint Cen (270); Cruit Main Sta (3); Div Engr (2) except New England Div Engr (20); Dist Engr (10). NG: State AG Special List. USAR: Mil Dist Special List. For explanation of abbreviations used see SR 320-50-1.

BLANK FIRING ATTACHMENT

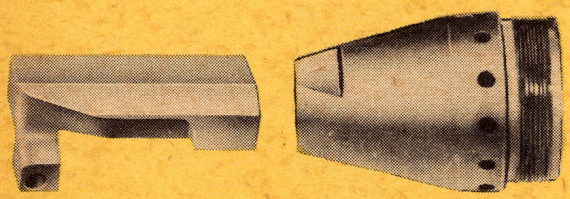
Sure has been lots of fussin' and fumin' over the two-part blank firing attachment and the short-round stop used in the .30-cal machine gun.

The big fuss has been raised by Joes trying to figure out which machine guns get which attachment and how they're used.

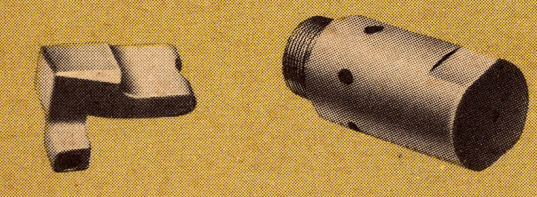
First — ABOUT THE BLANK FIRING ATTACHMENTS . . .



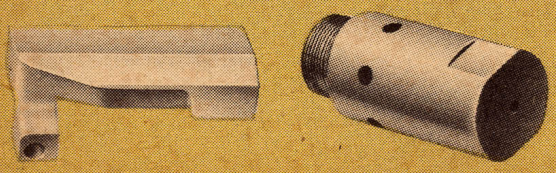
The new M6 blank firing attachment (used on the M1919A4 and A4E1 machine guns) is listed under Ord Stock No. A006-8412139.



The old M6 attachment came under Ord Stock No. A006-5545973.



The new M3A1 blank firing attachment (for the 1917A1 machine gun) comes your way under Ord Stock No. A005-8412112.



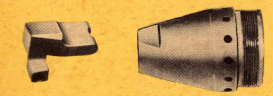
The Ord Stock No. for the old M3A1 attachment is A005-5509889.

BLANK FIRING ATTACHMENT

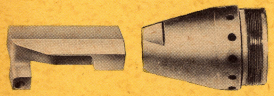
Sure has been lots of fussin' and fumin' over the two-part blank firing attachment and the short-round stop used in the .30-cal machine gun.

The big fuss has been raised by Joes trying to figure out which machine guns get which attachment and how they're used.

First — ABOUT THE BLANK FIRING ATTACHMENTS . . .

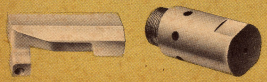


The new M6 blank firing attachment (used on the M1919A4 and A4E1 machine guns) is listed under Ord Stock No. A006-8412139.



The old M6 attachment came under Ord Stock No. A006-5545973.

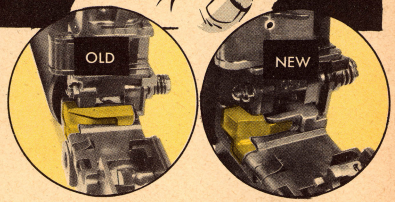
The new M3A1 blank firing attachment (for the 1917A1 machine gun) comes your way under Ord Stock No. A005-8412112.

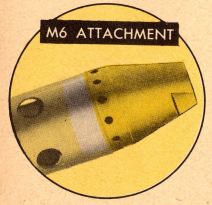


The Ord Stock No. for the old M3A1 attachment is A005-5509889.

VS. SHORT-ROUND STOP

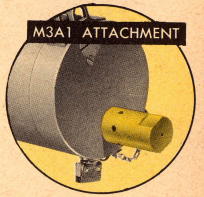
It's easy to see the big difference between the old and new attachments for each gun. The old attachments had parts that went clear across the receiver...while the new ones are much smaller. These parts—whether the old or new type—are the same for both the light and water cooled guns since the receivers are identical.

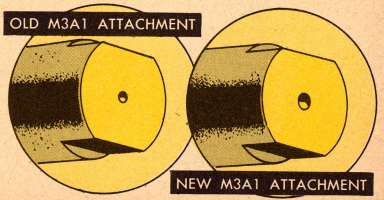




The old and new front-end gadgets for the light machine guns are the same. And the only difference in the M3A1 front-end gimmicks is that the new one has a slightly larger hole.

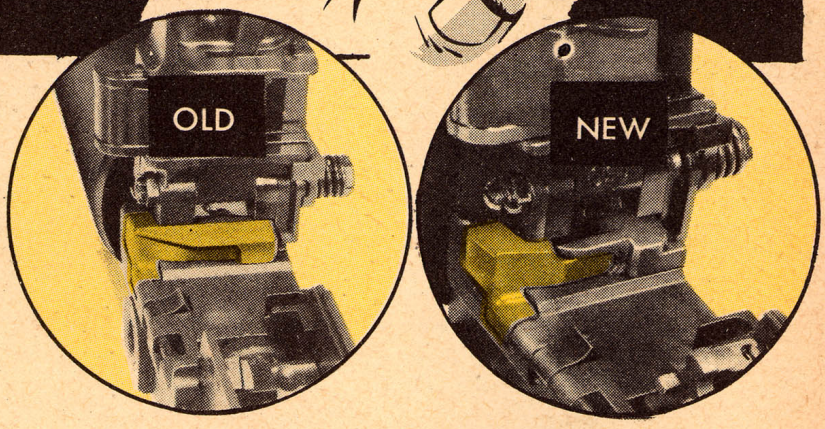
'Course...the barrel parts of the M6 and M3A1 attachments are different. That figures since they fit on the barrel end of the guns and the barrels are sure different.



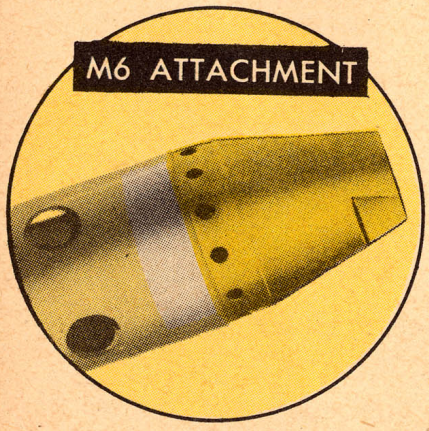


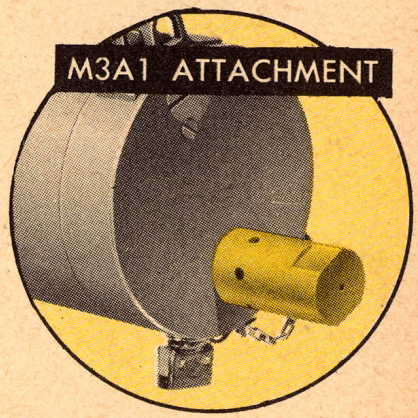
VS. SHORT-ROUND STOP

It's easy to see the big difference between the old and new attachments for each gun. The old attachments had parts that went clear across the receiver...while the new ones are much smaller. These parts—whether the old or new type—are the same for both the light and water cooled guns since the receivers are identical.



'Course...the barrel parts of the M6 and M3A1 attachments are different. That figures since they fit on the barrel end of the guns and the barrels are sure different.





The old and new front-end gadgets for the light machine guns are the same. And the only difference in the M3A1 front-end gimmicks is that the new one has a slightly larger hole.

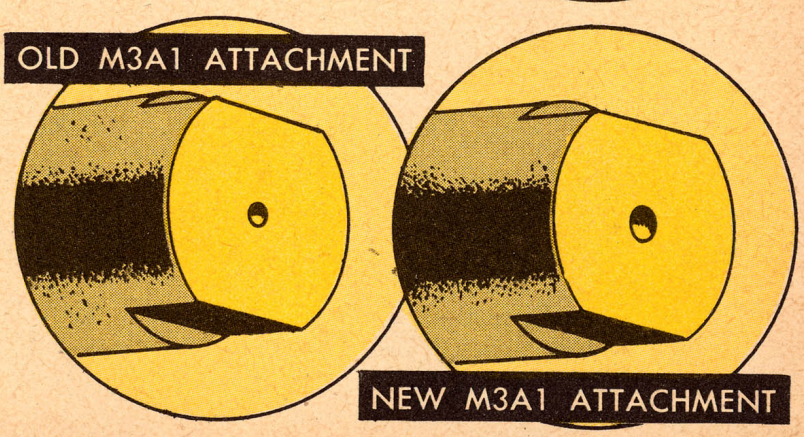


Fig 1

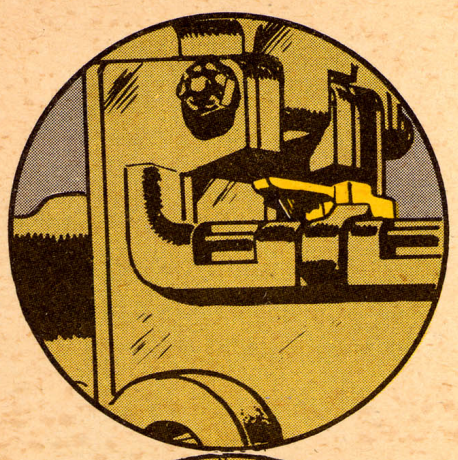


Fig 2

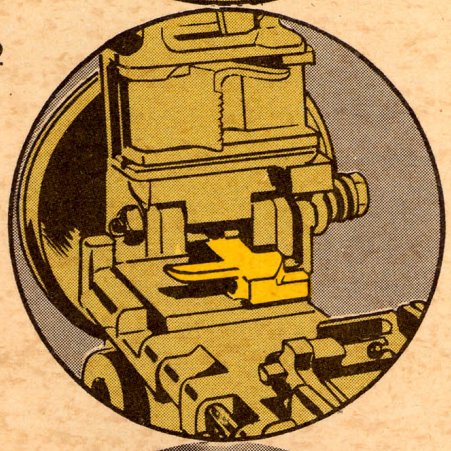


Fig 3

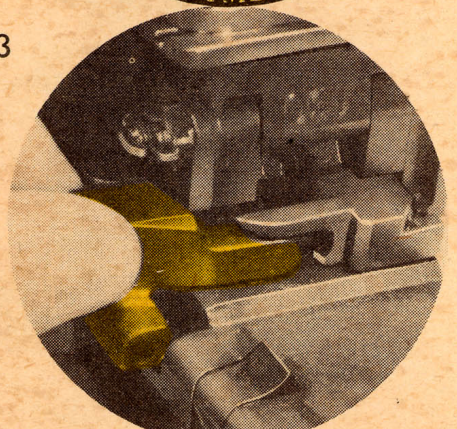
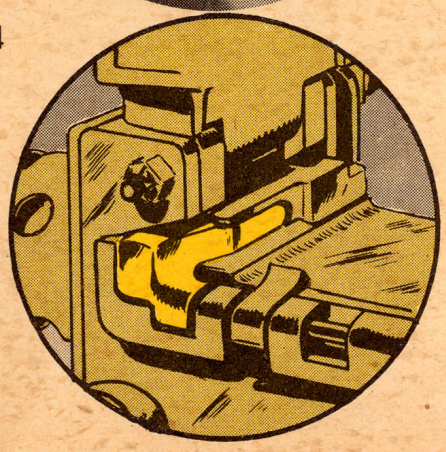


Fig 4



The old blank firing attachments for each type of gun are no good and should be turned in when a coupla "Normal" MWO's are applied to the gun by your Ordnance support unit. MWO Ord A6-W14, plus Changes 1 and 2, put a short-round stop on the 1919A4, 1919-A4E1 and 1919A6 models (Fig 1), and MWO Ord A5-W16, plus Ch 1 puts the same stop on the 1917A1 (Fig 2).

The short-round stop prevents stoppages caused by metal links jamming in the feedway exit and by short rounds. The old M6 and M3A1 gadgets just wouldn't work in the receivers since the stop is staked in. The stop stays put and becomes a permanent part of the receiver and from then on you always use the new M6 and M3A1 attachments.

To get the A4 and A4E1 ready for blank firing . . . pull the belt holding pawl pin back a half inch and slip the gadget into the receiver (Fig 3). Push in the pin and you're all set on the receiver end of the gun (Fig 4). The 1917A1 works the same way.

Hop around to the front end of the light .30. Remove the front barrel bearing from the barrel jacket . . . and screw in the conelike gadget (Fig 5). You're ready for blank firing.

Fig 5

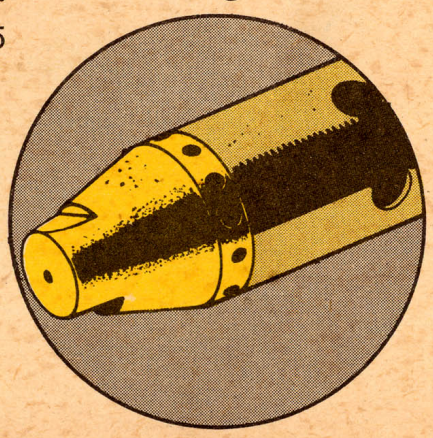


Fig 6

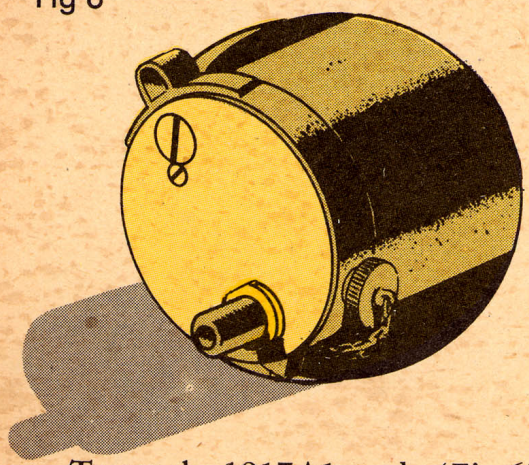
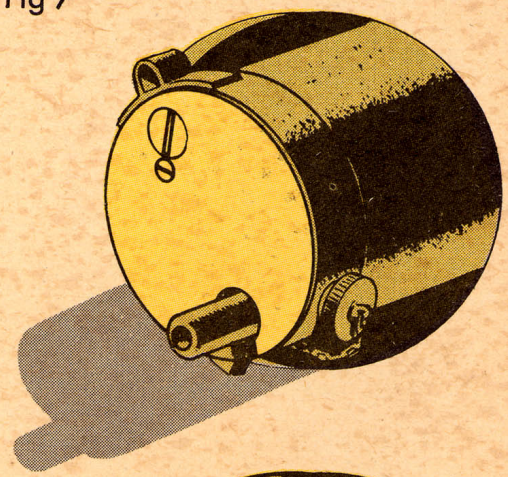


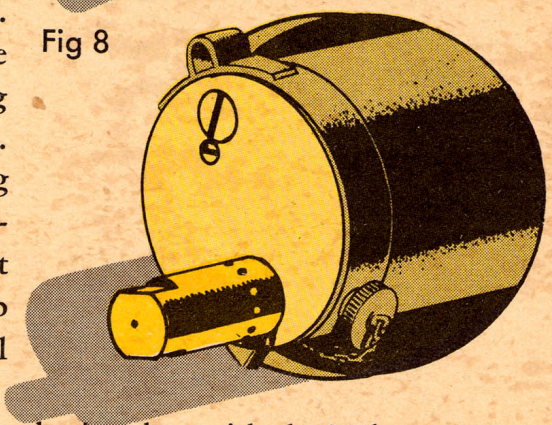
Fig 7



To get the 1917A1 ready (Fig 6) . . . remove the gland (Fig 7) and replace it with the other half of the blank firing gimmick (Fig 8). That's all there is to it.

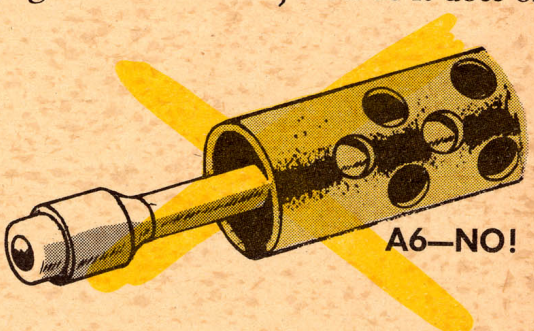
When you're all through firing blanks, remove the attachment immediately. If the barrel jacket attachment is left on, a live slug is gonna kick up a storm trying to get out of the small hole in the front end.

Fig 8

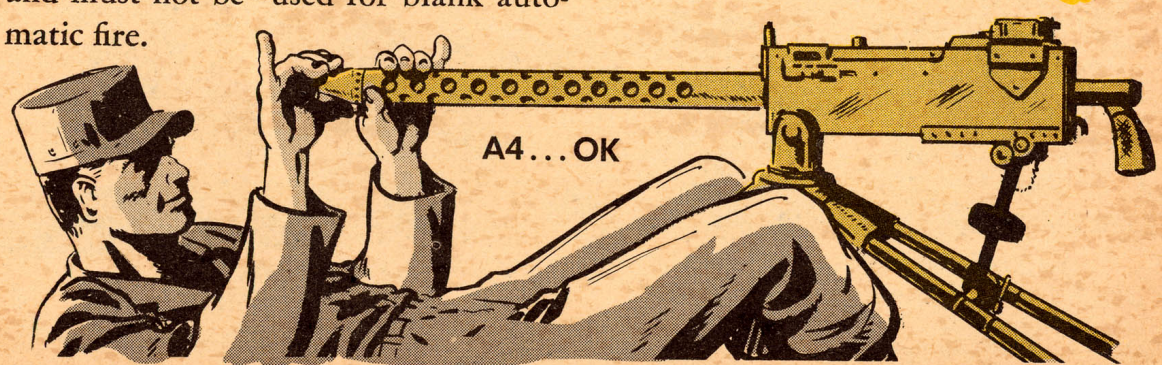


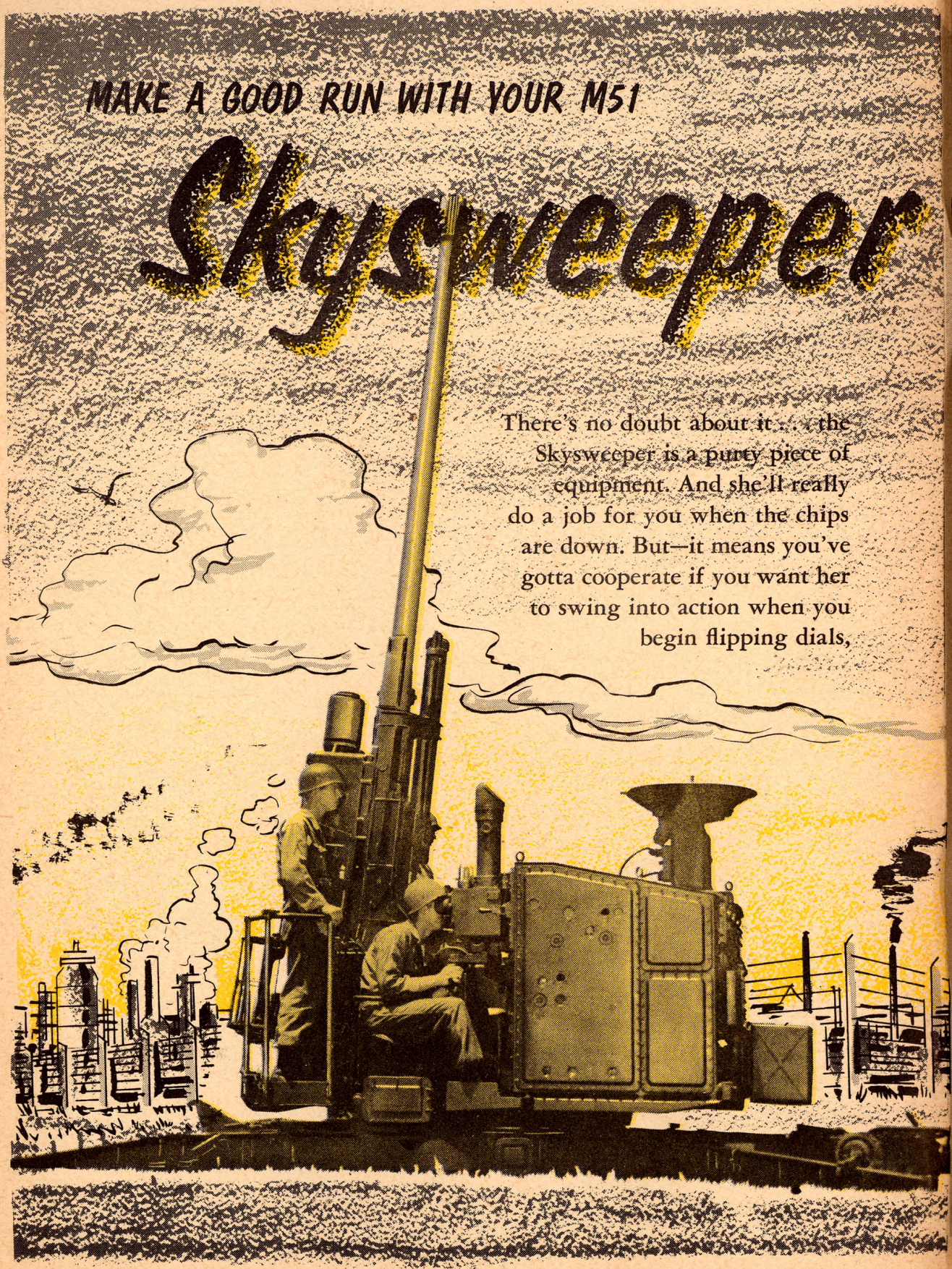
By now you're probably wondering what's what with the M6 attachment and the 1919A6 machine gun. There's nothing to it. You can't use the attachment with the A6. What's stopping you is the length of the A6 barrel jacket. That means the blank firing gadget doesn't fit up snug against the barrel jacket as it does on other models.

Agreed . . . you can get the receiver part of the M6 attachment to fit next to the shortround stop since the receivers are the same. But this'll only let you pop off one round at a time.



In other words . . . the A6 can't be—and must not be—used for blank automatic fire.

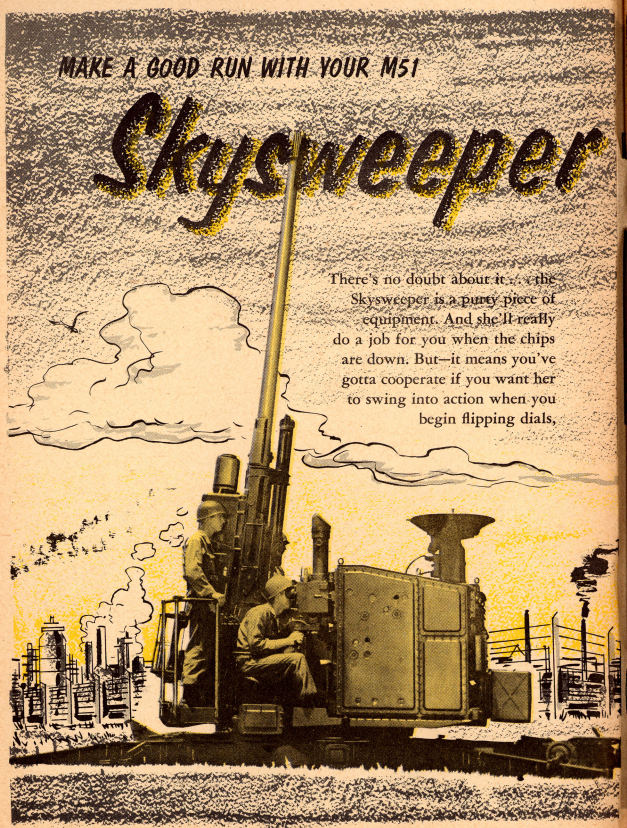



MAKE A GOOD RUN WITH YOUR M51
Skysweeper
There's no doubt about it . . . the Skysweeper is a purty piece of equipment. And she'll really do a job for you when the chips are down. But—it means you've gotta cooperate if you want her to swing into action when you begin flipping dials,

MAKE A GOOD RUN WITH YOUR M51

Skysweeper

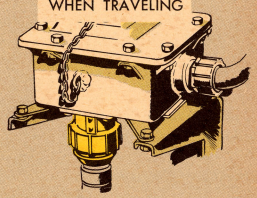
There's no doubt about it . . . the Skysweeper is a purty piece of equipment. And she'll really do a job for you when the chips are down. But—it means you've gotta cooperate if you want her to swing into action when you begin flipping dials, throwing switches and pushing buttons. It takes what they call "tender, loving care." That goes for everything that makes up the 'Sweeper—like the M35 (T83) 75-mm gun . . . the M38 (T38) fire control system . . . and the M84 (T69) mount.



Doing a coupla wrong things with the plug and cable assembly on the mount can lead you straight to the hot water bucket.

F'rinstance . . . not plugging the plug assembly into the receptacle box before traveling. That leaves you without brakes and lights on the rear bogie.

WHEN TRAVELING



KEEP PLUG IN RECEPTACLE

As if that's not bad enough . . . putting the plug under the swivel cap in travel gives you two mistakes for the price of one. You'll be without brakes and lights —**and** when you turn the front bogie,

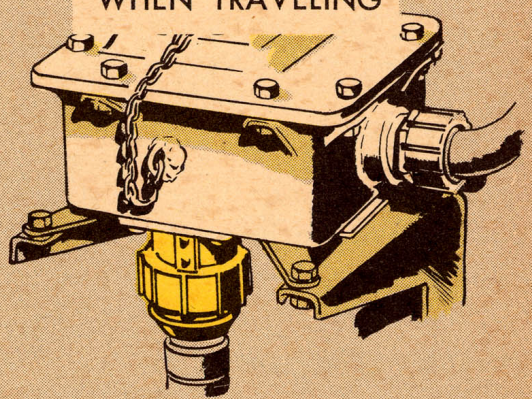
throwing switches and pushing buttons. It takes what they call "tender, loving care." That goes for everything that makes up the 'Sweeper—like the M35 (T83) 75-mm gun . . . the M38 (T38) fire control system . . . and the M84 (T69) mount.

Take The Mount

Doing a coupla wrong things with the plug and cable assembly on the mount can lead you straight to the hot water bucket.

F'rinstance . . . not plugging the plug assembly into the receptacle box before traveling. That leaves you without brakes and lights on the rear bogie.

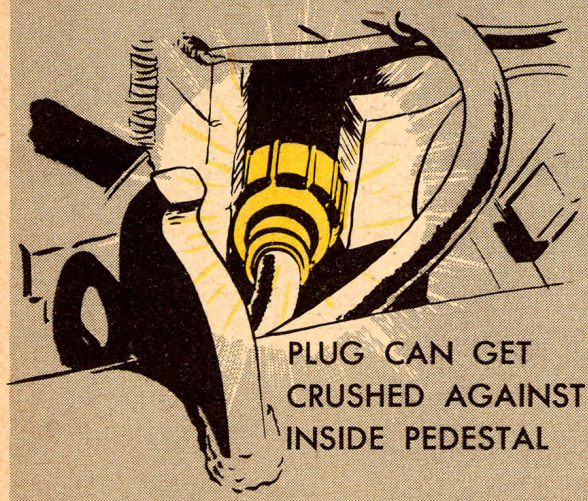
WHEN TRAVELING



KEEP PLUG IN RECEPTACLE

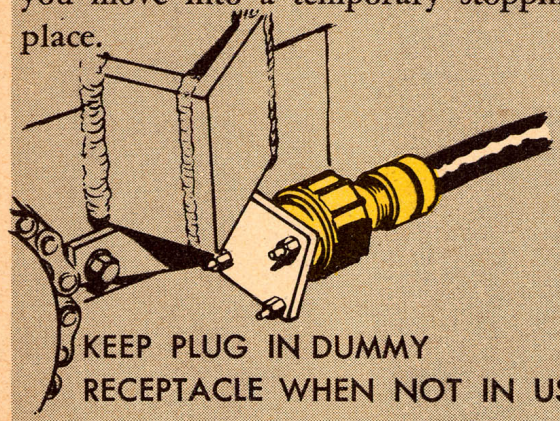
As if that's not bad enough . . . putting the plug under the swivel cap in travel gives you two mistakes for the price of one. You'll be without brakes and lights —**and** when you turn the front bogie,

the swivel assembly also turns, crushing the plug against the inside pedestal.



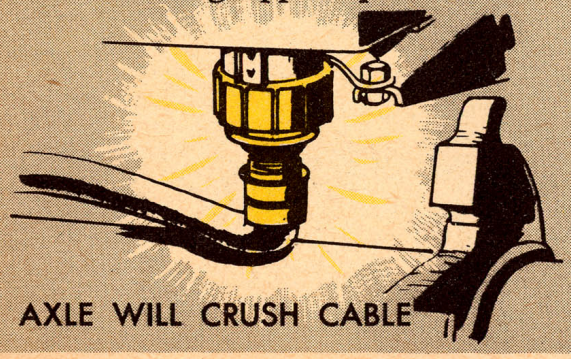
PLUG CAN GET CRUSHED AGAINST INSIDE PEDESTAL

You can have the plug where it belongs while traveling, but slip up when you move into a temporary stopping place.



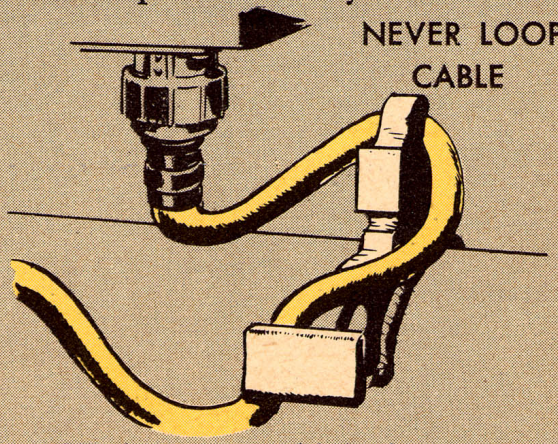
KEEP PLUG IN DUMMY RECEPTACLE WHEN NOT IN USE

That happens when you raise the drawbar and remember—too late—that the plug's still in the receptacle box. The cable hits the axle as you raise the drawbar and then comes the squeaking sound of rubber being ripped up.



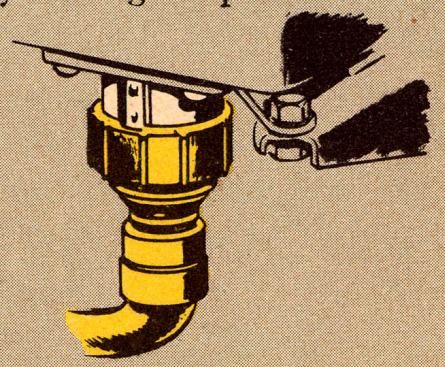
AXLE WILL CRUSH CABLE

You also let yourself in for trouble when you loop the cable over the emplacing hooks on the front bogie. This keeps the drawbar from touching the ground, which puts a strain on the plug and receptacle assembly.

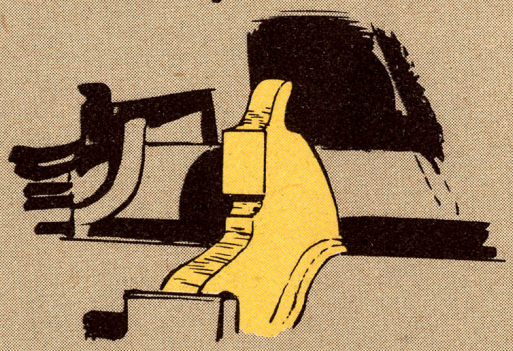


NEVER LOOP CABLE

OK then...stow this in that receptacle under your fatigue cap:



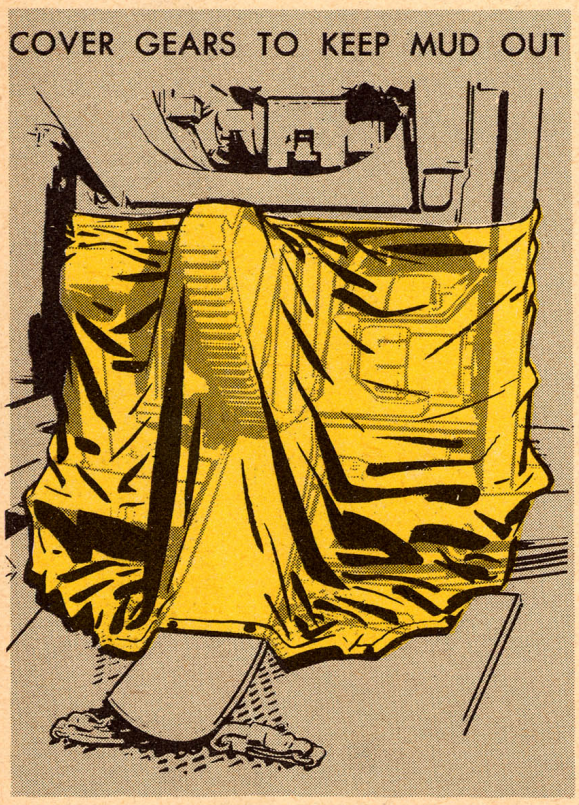
1. Have the plug in the receptacle box when traveling.



2. Before removing the drawbar, make sure the cable is not looped over the emplacing hooks and put the plug in the dummy receptacle.

Keep The Mud Out

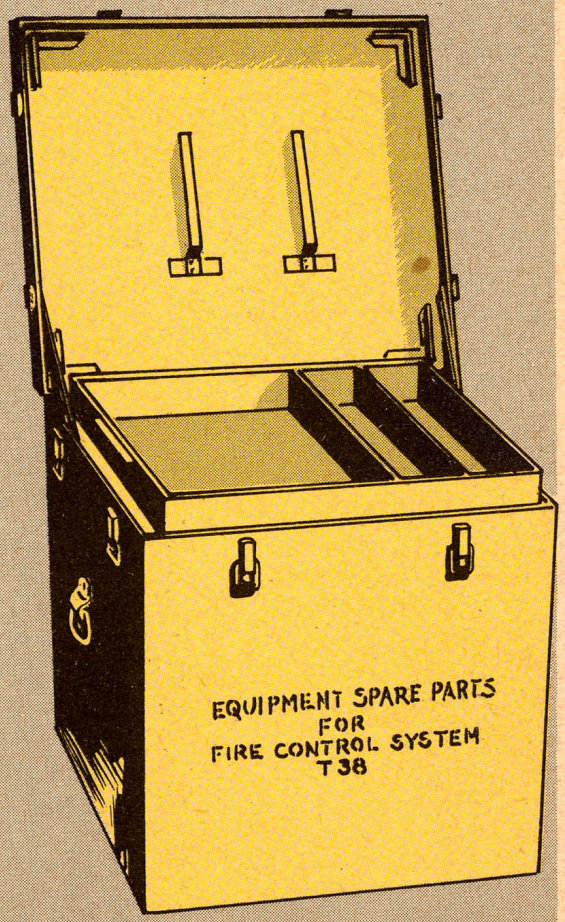
Some guys have been having trouble with the M8 tractor throwing all sorts of stuff into the elevation segment gear and base plate gearing of the gun. The gears get loaded with mud, rocks and what-have-you, and the gun doesn't work, but you do—getting rid of the stuff.



Until Ordnance finishes study on a fix that'll take care of this mud-slinging you can be doing something. Get yourself a piece of canvas that'll be large enough to cover the gears. Tie the canvas after wrapping it around the sides of the top carriage. That'll keep things snug and clean.

Just In Case...

Certain Skysweeper batteries are supposed to have two cases to carry spare parts and equipment. They're the batteries which are supporting the latest fire control systems (serial number 1162 and up) and systems which get modified by MWO F350-W50.



So...if you've been short-changed... get that second carrying case under Ord Stock No. F350-8227705.

Sure Should Shear

No... they're not making those shear pins stronger on the Skysweepers these days.

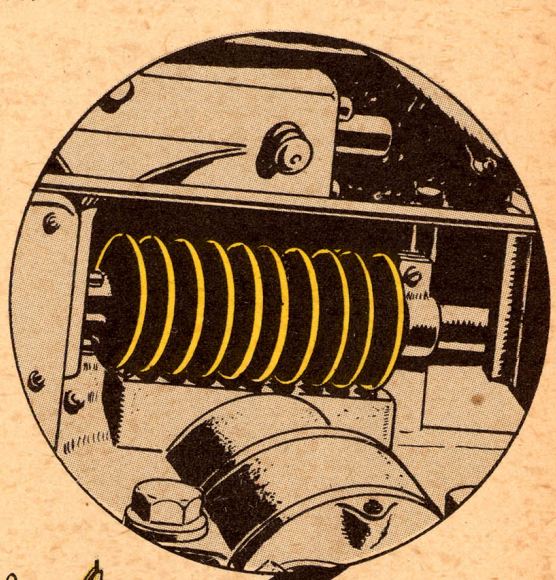
If the pin isn't snapping when you get into trouble with the M17 (T23) loader-rammer, like not feeding the ammo, you can probably blame it on rust. And you know who gets chewed out for rust.

What happens is that water or just plain moisture works its way into the bellows covering the tubes and rods of the chain-drive and tray-drive-link assemblies. If you don't have any preservative lube on the rods and tubes, the rust goes to work. Next thing you know... the rods and tubes are fused so tight by the rust, something's gonna give before the shear pin does.

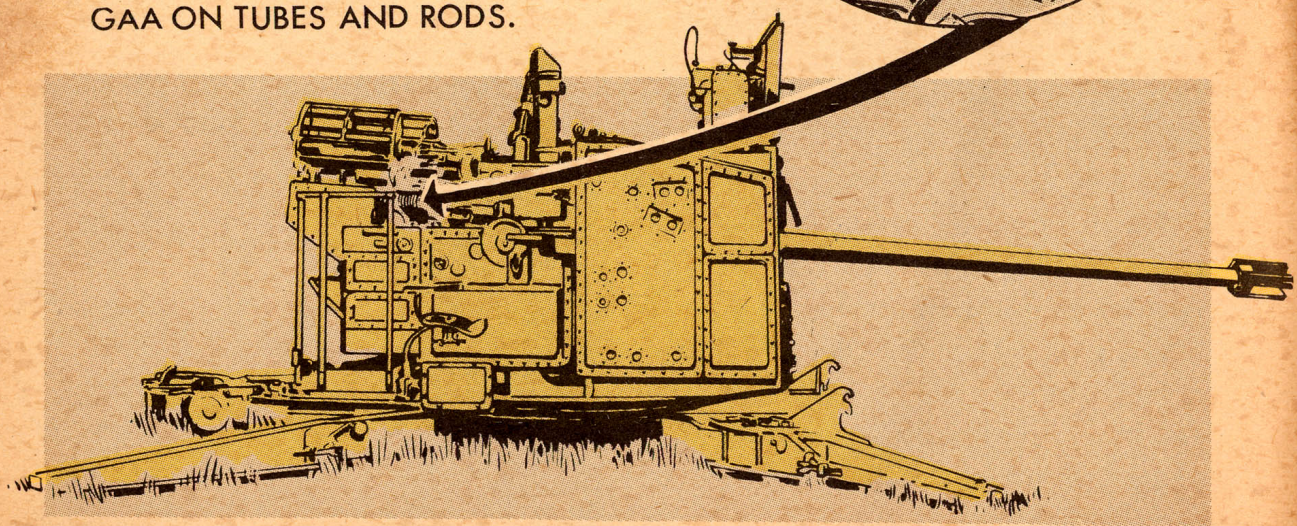
Once things get to that point it's time to call in Ordnance.

First chance you get, then... loosen the bellows on each assembly. Skin 'em back and shoot some glances in the direction of the rods and tubes, all the time keeping on the lookout for signs of rust.

Let's say there's no rust. Now's the time to make sure the weapon stays out of the hands of Ordnance by smearing a thin coat of GAA on the parts. You're not finished until you replace the bellows.



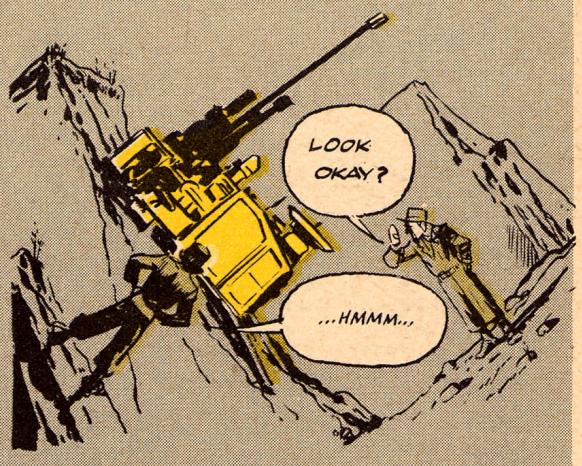
KEEP A THIN SMEAR OF
GAA ON TUBES AND RODS.



Before You Emplace...

An extra number found its way into TM 9-361 so that the info on the Skysweeper trunnion tilt isn't what it should be.

The TM allows you an 8.5° slope in emplacing the gun mount. Actually... the slope shouldn't be any more than 5°. When it's more, your firing data is thrown out of whack. Result? Your target stays in one piece.



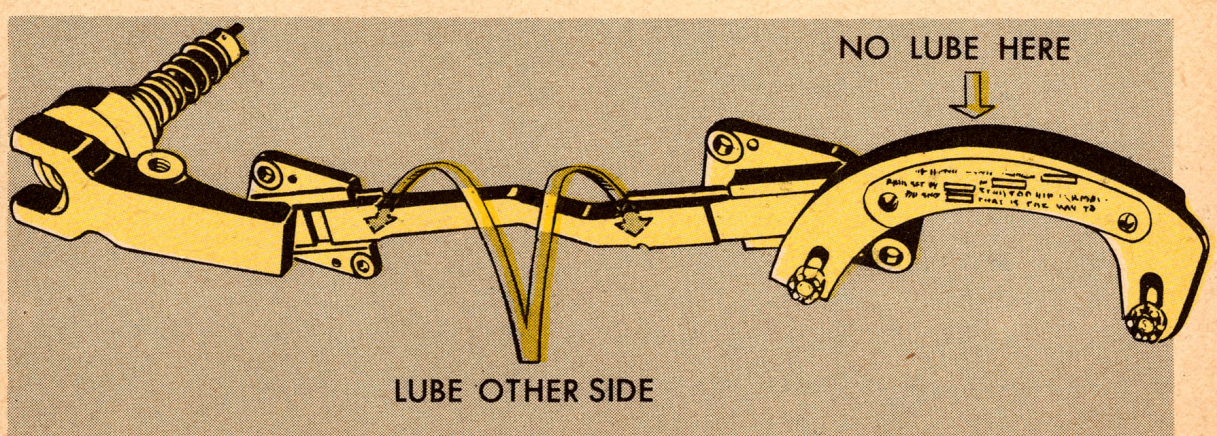
Long Time No Lube?

Looks like some guys have been short on grease supply.

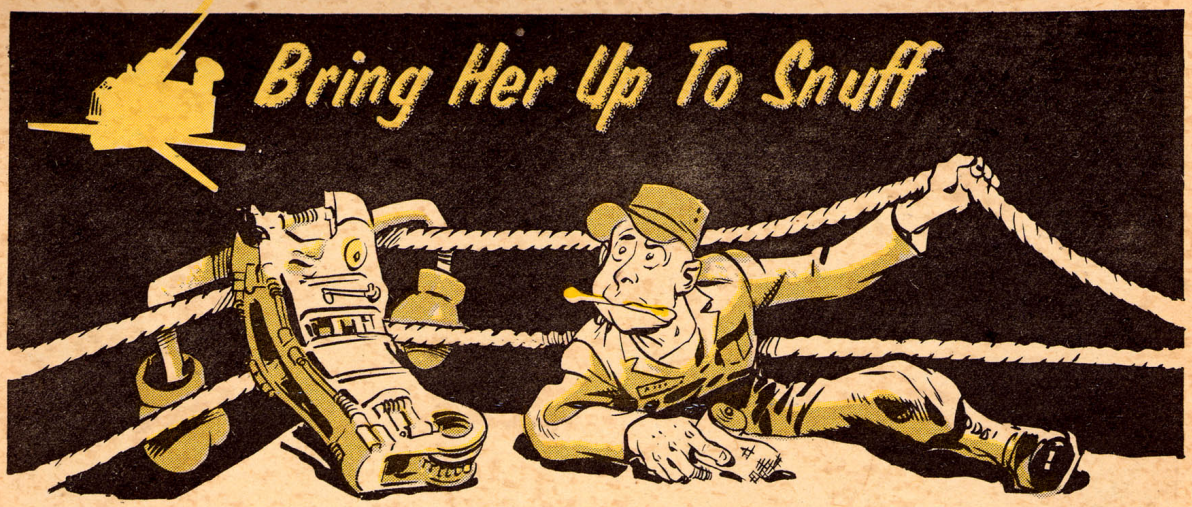
That must be the reason the connecing rod and brackets in the recoil throttling valve and control assembly are taking a beating for lack of lubrication. You know... scarred and worn parts. Sure is no trouble to lightly lube the rod once a week like LO 9-3026-1 tells you.

Make sure the grease gets on the sliding surfaces of the rod and brackets by raising and lowering the gun a coupla times while you're lubing.

You wanna keep the grease out of the groove in the cam. The grease'll help collect dirt... and that's something you want no part of.

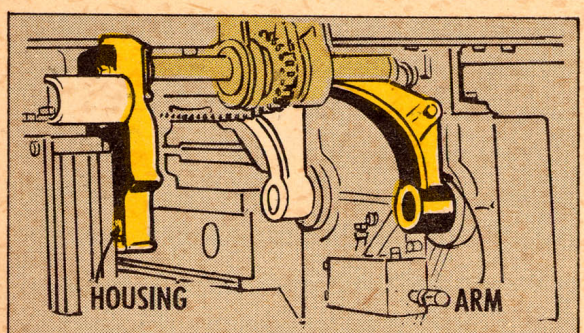


Bring Her Up To Snuff



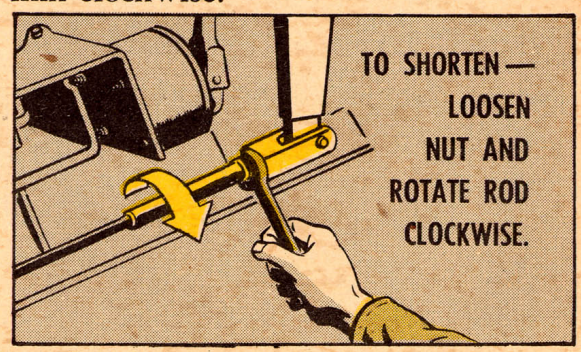
Some guys've been finding their loader-rammer M17 (T23) has been getting rammed instead of doing the ramming. Lot of 'em get banged up bad by the gun recoiling into the tray when it's in the down position.

Before your big paws get hold of that rammer again, run her through this list. Might stop trouble before it happens.

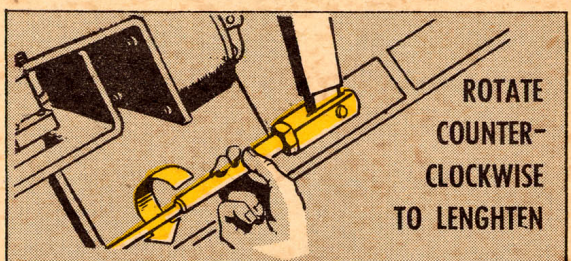


1. With loader-rammer tray-assembly locked in UP position, push forward on your right-rear tray-drive arm and tray-arm chain-drive-sprocket gear housing. That should move your tray-assembly forward 1/8 to 3/16-inch. And the assembly should return to its normal position when pressure's released.

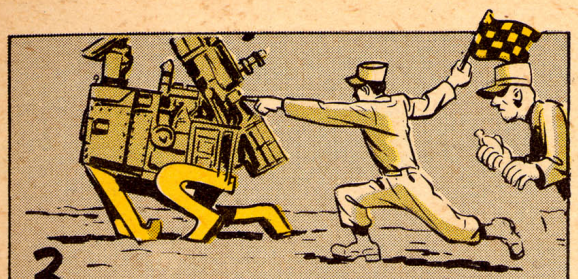
The tray-assembly doesn't move forward far enough? Shorten the tray-drive connecting-link-assembly until you get the right movement. To shorten her, loosen jam nut and rotate tray-drive link clockwise.



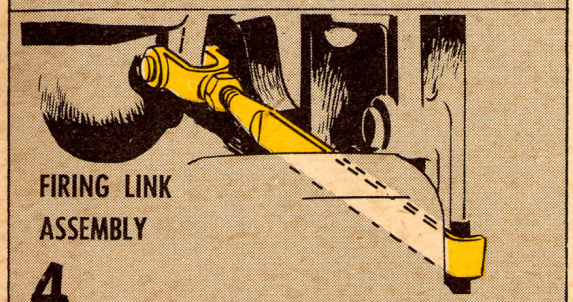
The deal's t'other way if the tray-assembly moves forward more than 3/16-inch. Rotate the tray-drive link counterclockwise until the tray's right.



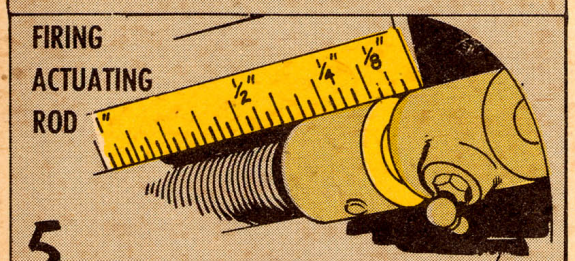
2. Breech mechanism, breech cover, and firing mechanism interlocks should come forward when moved to the rear and released.



3. Adjustments to firing linkage are made only with the gun completely in battery.

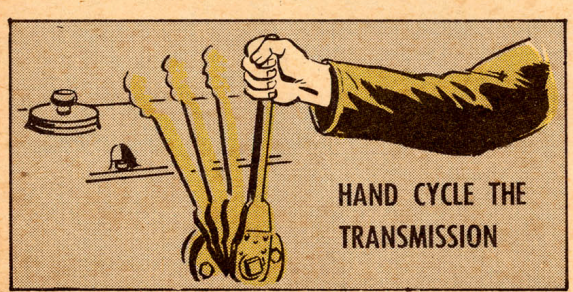


4. The firing-link-assembly should be straight, pin 7214776 through firing-link-assembly, firing-rod linkage-extension not peened, snap ring installed.



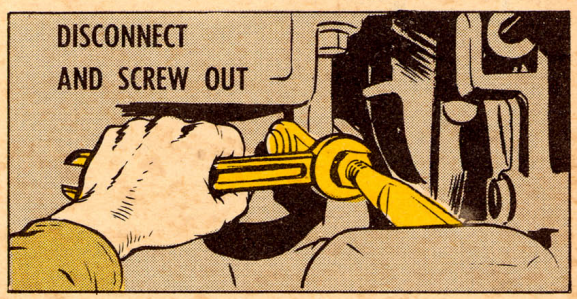
5. Check the firing actuating rod for $\frac{3}{32}$-in minimum and $\frac{1}{8}$-in maximum travel to actuate firing mechanism.

Lower the tray-assembly, close the breechblock, cock the firing mechanism, and hand cycle the transmission until the right forward tray-arm **just contacts** firing actuating rod.



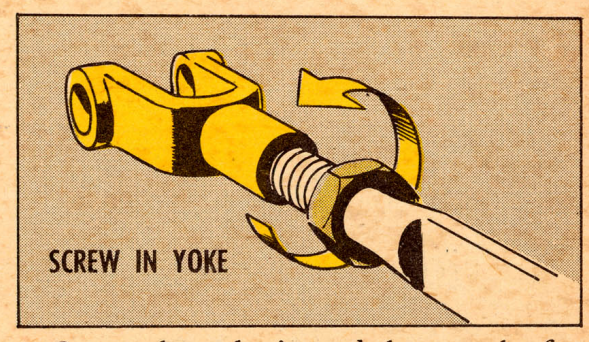
Cycle her slowly until the firing mechanism trips the trigger, and stop real quick. Measure how far the firing-actuating-rod is depressed. Take a reading from the rear actuating-firing-rod-collar to actuating-firing-rod-bracket.

If the distance is less than $\frac{3}{32}$-in, do this:



Disconnect the adjustable yoke of link 7140426. Loosen the jam nut and screw out the yoke to lengthen the firing-link-assembly (one turn equals about $\frac{5}{64}$-inch.) Connect the yoke and recycle, checking movement of the firing-actuating-rod. Repeat the operation until the firing-actuating-rod moves the required $\frac{3}{32}$ to $\frac{1}{8}$-inches.

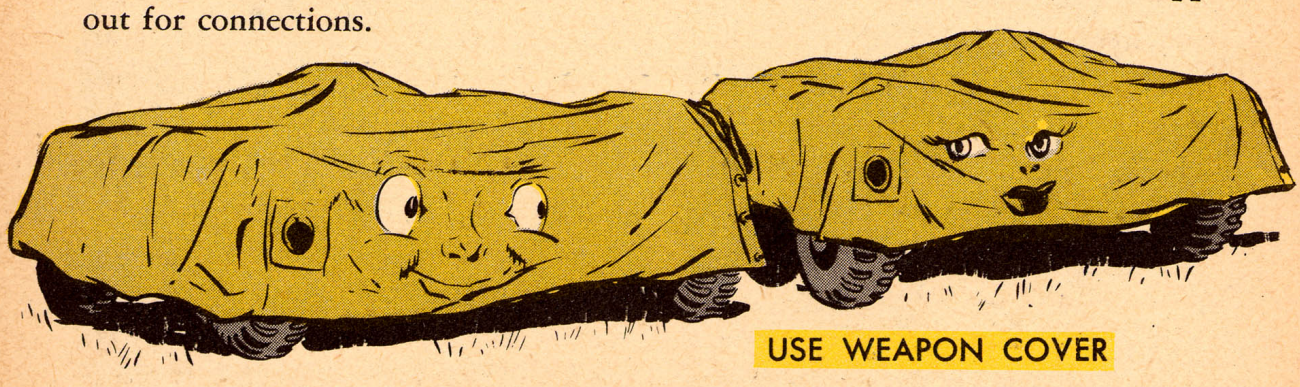
If the distance is greater than $\frac{1}{8}$-in, do this:



Screw the yoke in and shorten the firing linkage to get the right adjustment. When she's adjusted right, tighten the jam-nut and connect the yoke to the firing-linkage-lever. It'll save wear and tear on your M17 (T23) loader-rammer if she's like it says here.

Weather Rot Stopper

Bogie cables are like flat beer—the longer they sit the worse they get. Only difference is the cables taste the same after they've been sitting awhile. But weather rot beats 'em up, 'specially small conductors which have been stripped out for connections.



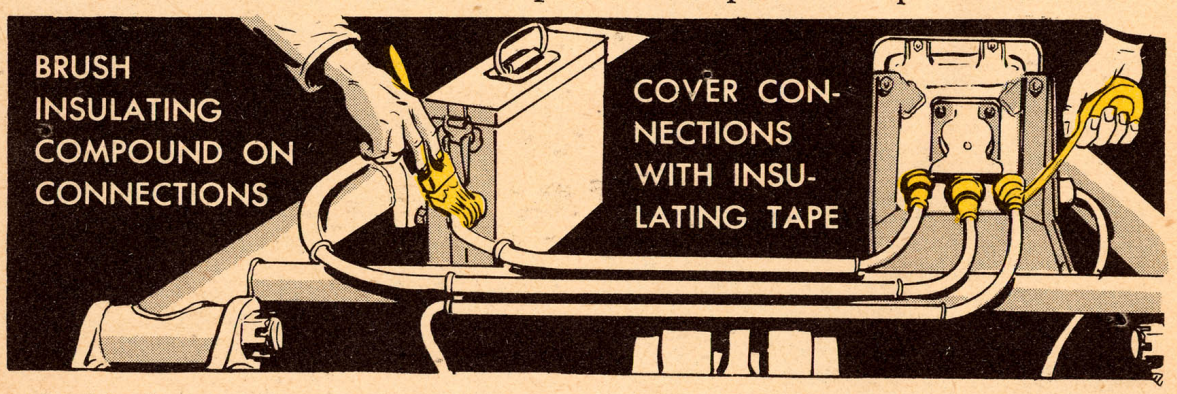
USE WEAPON COVER

Long emplacement of a Skysweeper means those bogies and their components gotta be protected. Best way to do that is build a shed to store them in—if your CO approves the idea.

If not, get the overall weapon cover, detach the bogies, snuggle 'em up close together, and tuck 'em in. Keep the cover a few inches off the ground to allow for circulation. That allows the cover to dry out after it gets wet.

Cable connections should be protected whether or not you have 'em covered. Spray or brush some ignition insulating compound on the connections. Be careful 'cause the stuff's inflammable as heck and evaporates fast. Put it only on wires connected and checked for proper continuity.

Connections can also be covered with electrical insulating tape. If you can get both, apply the compound and then put on the tape. Double protection.



Neither of those things is available through your Ord 7. Hunt up your buddies in the automotive section and bum compound and tape from them.

You won't use enough to short their supplies.

Hot Parts

Some Skysweepers never get to see what the outside world looks like, but strange things can happen to 'em.

Why... just t'other day a gun took a fit—shocked the blazes out of its crew when anyone touched it. After much look-see, one guy asked Ordnance to break the seal on the main power junction box. Darned if there wasn't an inch of water on the bottom of that waterproof, dust-proof, everything-proof box.

The sealing was flaked off of everything in large patches, and the terminals, lines and filters were beaded and badly corroded.

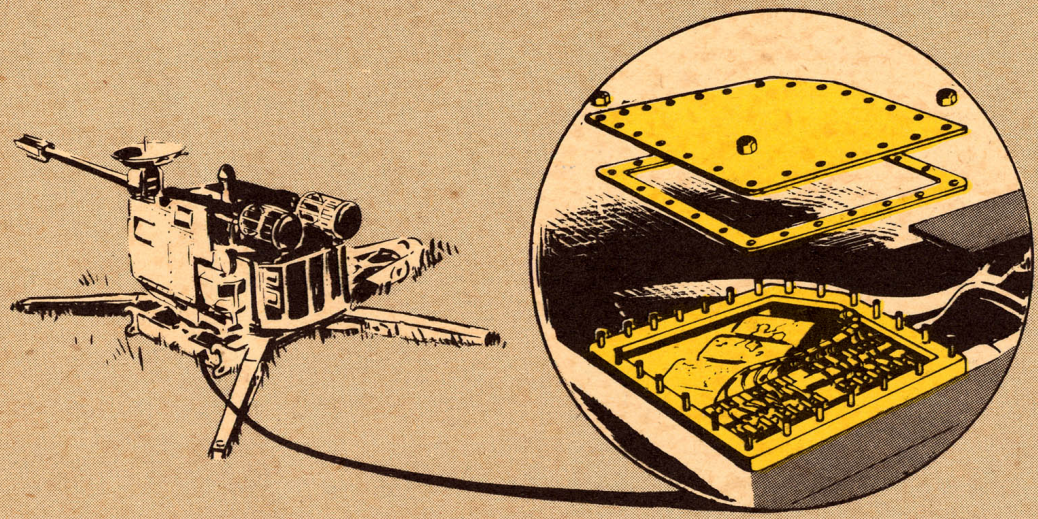
Strange thing is that the 'Sweeper was used for maintenance training... and has been sitting indoors on a dry floor for a long spell.

There are several possible answers. Maybe somebody accidentally tampered with the cover bolts, the gasket went bad or at one time the 'Sweeper sat in a puddle of water and moisture seeped into the box through the side connections. Then there's the chance that the clean-up detail got a little frisky with its hose in washing down the area—'specially if the box wasn't sealed right.

So it's a good idea to test the cover bolts for tightness at least once a month. And have Ordnance check the box's insides at the annual inspection.

Course... a corroded box is due for some field maintenance right quick.

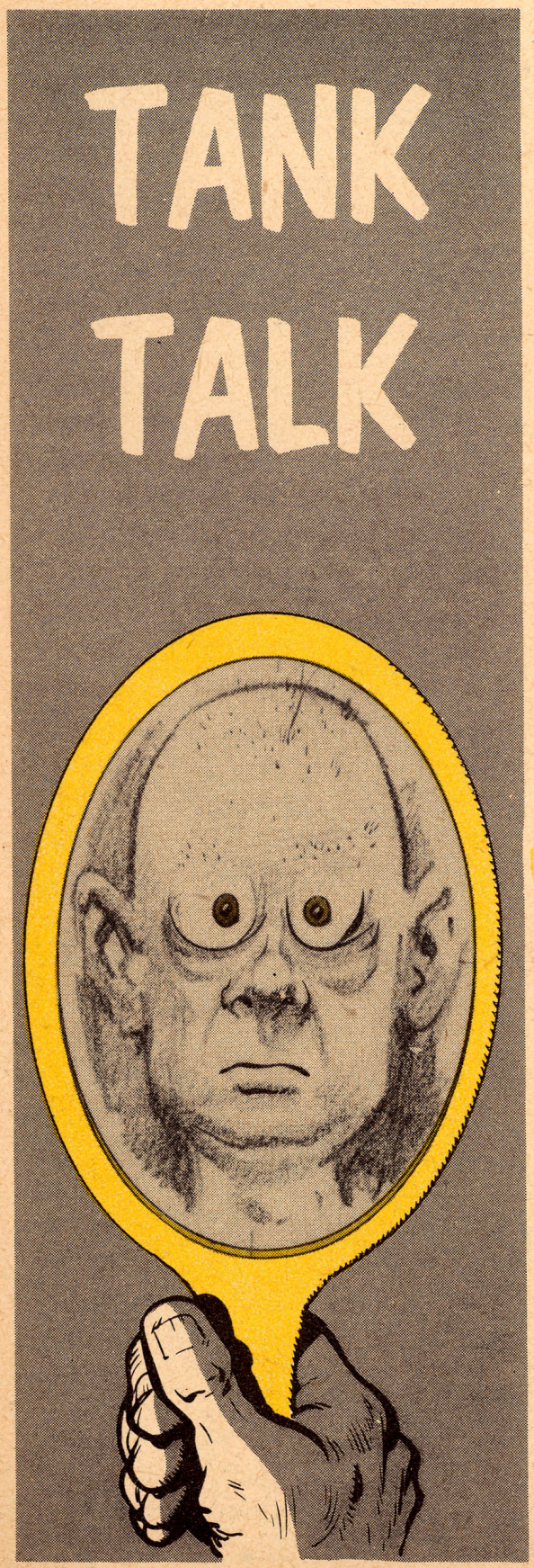
HAVE ORDNANCE CHECK INSIDES



THEY'LL CLEAN 'ER OUT, RE-SEAL THE WORKS WITH MELTED WAX AND GIVE THE BOX A NEW SEALING GASKET.

TEST COVER BOLTS FOR TIGHTNESS OFTEN—WHEN CLOSED.

TANK TALK

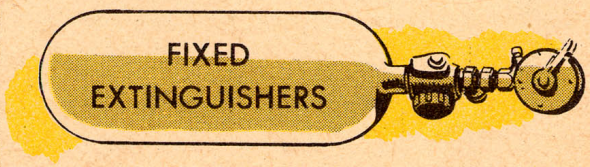


A little care here

Ever hear of Hairless Joe Hoolihan? He's the thick-skulled tankster who had to burn before he'd learn that you've gotta keep on your toes to keep a vehicle fire-safe.

Every time you hear of fire gutting a tank (and maybe singeing some of its occupants), y'can safely bet your roll that somebody somewhere somehow overlooked some of these safety points.

First, of course, it's basic to make sure you've got the equipment to cope with a fire if it should develop. So give those fire extinguishers a good going over. Like this:

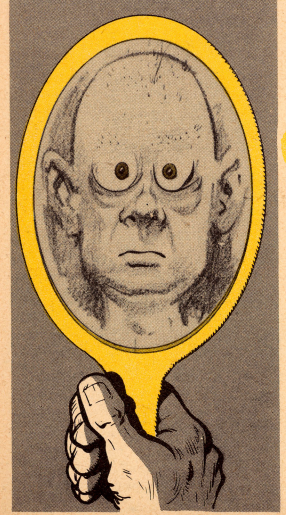


Have the cylinder removed and weighed. (It holds 10 pounds of charge.) Subtract the container weight marked on the valve body from the total weight (container **and** charge). If the difference is less than nine pounds—meaning you've got less than nine pounds of charge—then it's time either to get a recharge or to have a fully-charged cylinder installed.

(Some extinguishers may have a **filled** weight specified on the cylinder. In this case you'll need a new cylinder when your total weight is one pound or more **below** the specified filled weight.)

Check all extinguisher lines and fittings for tightness. Look for broken seals

TANK TALK



A little care here and there and you'll never yell—

"Fire in the Hull!"

Ever hear of Hairless Joe Hoolihan? He's the thick-skulled tankster who had to burn before he'd learn that you've gotta keep on your toes to keep a vehicle fire-safe.

Every time you hear of fire gutting a tank (and maybe singeing some of its occupants), y'can safely bet your roll that somebody somewhere somehow overlooked some of these safety points.

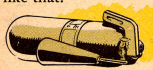
First, of course, it's basic to make sure you've got the equipment to cope with a fire if it should develop. So give those fire extinguishers a good going over. Like this:

FIXED EXTINGUISHERS

Have the cylinder removed and weighed. (It holds 10 pounds of charge.) Subtract the container weight marked on the valve body from the total weight (container **and** charge). If the difference is less than nine pounds—meaning you've got less than nine pounds of charge—then it's time either to get a recharge or to have a fully-charged cylinder installed.

(Some extinguishers may have a **filled** weight specified on the cylinder. In this case you'll need a new cylinder when your total weight is one pound or more **below** the specified filled weight.)

Check all extinguisher lines and fittings for tightness. Look for broken seals at your pull handles and heads. Check remote pull handles to see that they're working right. And give a sharp eye to that outside pull handle—it could be stopped up with mud, snow and stuff like that.



PORTABLE EXTINGUISHERS

Have the weight checked regardless of whether the wire seal's been broken. The container weight is stamped on top of the stationary part of the swivel head. Subtract this from the overall weight that shows on your scale. If you come up with less than 4½ pounds of charge (carbon dioxide), replace with a fully charged extinguisher. And don't forget to check for proper stowage—see that your stowage bracket's in good shape.

And here are a few general things that a tankman keeps well in mind if he wants to keep off the grill:

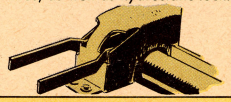
NO SMOKING
in or around a vehicle

Mufflers and exhaust stacks — keep 'em clear of rubbish; muck and matter that'll burn.

Prime an engine only when it's being cranked.

Use that degasser to kill your main engine—never do it with the magneto switch. Backfires can cause fires.

When your buggy's not in operation, keep the fuel shut-off valves, or fuel selector valve, OFF. This'll cut down the danger of leaks and fires, as well as hydrostatic lock.



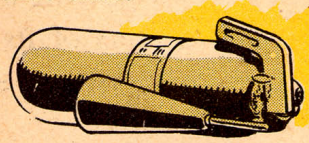
Keep an eye on Li'l Joe. Make sure it's properly installed and connected. When Joe's out of the tank, positive lead should be well insulated. The positive terminal is "live" when master switch is ON. See that it's wrapped completely with three or four layers of electrical tape, and fastened up so it won't bang around when the tank's operating.

Know all the in's and out's of gassing up your buggy safely.

and there and you'll never yell—

"Fire in the Hull!"

at your pull handles and heads. Check remote pull handles to see that they're working right. And give a sharp eye to that outside pull handle—it could be stopped up with mud, snow and stuff like that.



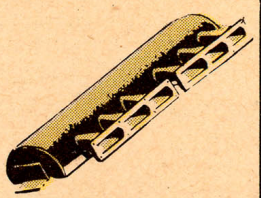
PORTABLE EXTINGUISHERS

Have the weight checked regardless of whether the wire seal's been broken. The container weight is stamped on top of the stationary part of the swivel head. Subtract this from the overall weight that shows on your scale. If you come up with less than 4½ pounds of charge (carbon dioxide), replace with a fully charged extinguisher. And don't forget to check for proper stowage—see that your stowage bracket's in good shape.

And here are a few general things that a tankman keeps well in mind if he wants to keep off the grill:

NO SMOKING
in or around a vehicle

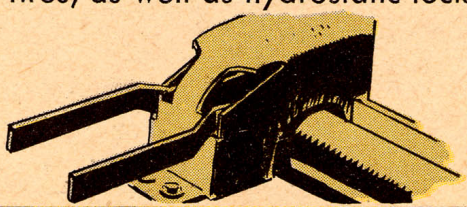
Mufflers and exhaust stacks — keep 'em clear of rubbish; muck and matter that'll burn.



Prime an engine only when it's being cranked.

Use that degasser to kill your main engine—never do it with the magneto switch. Backfires can cause fires.

When your buggy's not in operation, keep the fuel shut-off valves, or fuel selector valve, OFF. This'll cut down the danger of leaks and fires, as well as hydrostatic lock.

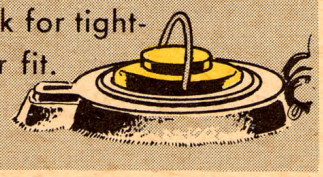


Keep an eye on Li'l Joe. Make sure it's properly installed and connected. When Joe's out of the tank, positive lead should be well insulated. The positive terminal is "live" when master switch is ON. See that it's wrapped completely with three or four layers of electrical tape, and fastened up so it won't bang around when the tank's operating.

Know all the in's and out's of gassing up your buggy safely.

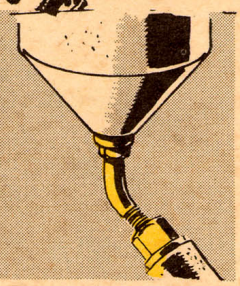
Naturally it's best to keep a fire from starting in the first place. So before, during and after operation, keep your sharp eye on:

Emergency and main gas filler caps. Check for tightness and proper fit.

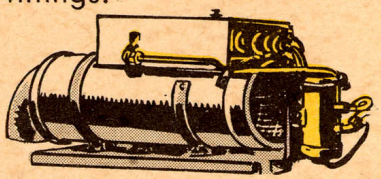


Fuel couplings, carburetors, fuel pumps and quick disconnects. Look for leaks.

Remote fuel filter drain (on the M42 only). Check for leaks and proper assembly of fittings and clamps.

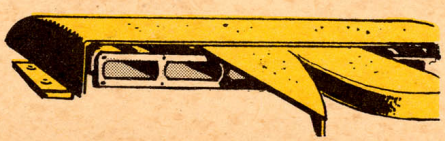


Personnel heater. Watch for leaks in lines and fittings.



Muffler exhaust stacks. Look for cracks, insulation deteriorating around the fuel tanks and for excess play in the ball joints.

Muffler exhaust stack shields. Inspect for tightness.

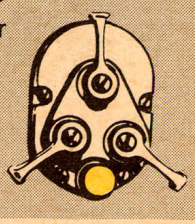


Fuel tanks. Look closely for leaks.

Fuel tank mounts. Are they tight and assembled right?

Electrical cables. Check for insulation breaks and good connections.

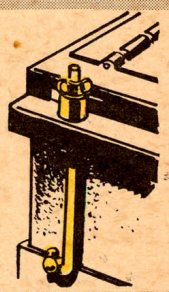
Degassers. Check operation before starting your engine. (Push the button and listen for the solenoid CLICK.)



Engine compartment bilge. Keep it clear of anything that'll burn.

Universal joints. Are the attaching-bolt lock wires properly assembled and tight? If they're loose, check the torque on the bolts and rewire 'em. If they get loose, the U-joints can fail and chop up your fuel tanks.

Battery hold-down clamps. Check for tightness, proper fit and clearance. They shouldn't rub against adjacent metal parts.



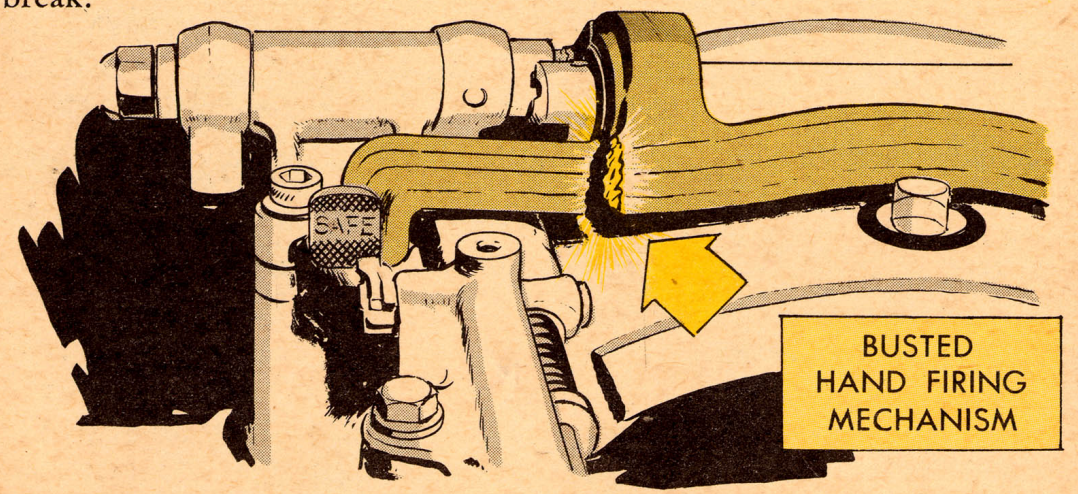
When disconnecting batteries, always take the ground strap loose first. It'll help prevent those sparks which can set off any gasoline that's around.

YOUR 90-MM TANK GUN—

There's Nothing Wrong With Musclemen Firing It, But . . .

Take a long, cold look at the equipment below. Know what it is? It's a busted hand firing mechanism bracket for the 90-mm gun.

Some of you guys probably have seen the real McCoy and know what caused the break.



That's right . . . some Joe played grabs with the hand firing lever while manually letting go with a round. He held on to the handle and kept pulling after the gun fired. That kept the firing plunger to the rear. The gun went through its counter-recoil cycle. Something had to give. Bam—it did. And one busted firing mechanism bracket was chalked up.

The break also threw the hand firing lever shaft and the firing lever plunger actuating shaft out of alignment.

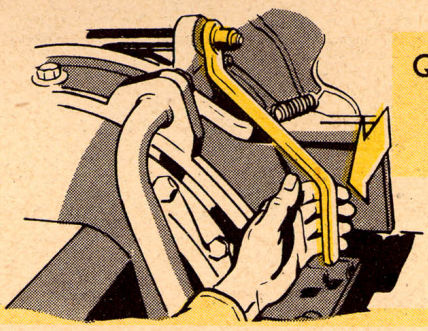
The firing mechanism on the 76-mm gun isn't the same as the 90-mm, but the same thing has been happening. A gunner pushes on the firing handle and holds it in. Whammo . . . and a requisition is put in for new firing mechanism parts.

There's also been some talk about breaking the firing mechanism brackets when trying to hand fire the 90-mm gun with safety ON (up). The thing breaks in the same spot as when the hand firing handle is pulled too far back with the safety OFF. What happens is that the detent on the lever shaft runs smack into the plunger, which has nowhere to go without breaking something because the safety is ON.

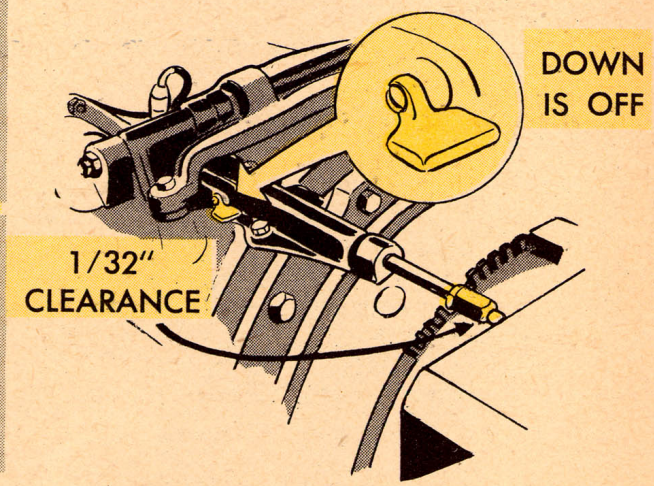
'Course . . . it takes a man with a mighty powerful pull to wreck the works. But, it's happening. What are the answers?

TURN THE PAGE

NUMBER ONE—treat the hand firing lever like a hot potato. Give it a sharp rap with the inside of your fingers, like you do when you're raking in your first pot after three hours of play. And be sure never to pull on firing lever while the gun's being reloaded.



NUMBER TWO—always make sure the safety is OFF when you're hand firing. If there's no "give" to the handle when you rap it sharply, you'll probably find you forgot about the safety.

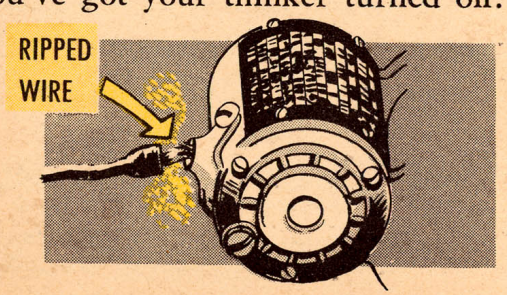


NUMBER THREE—make sure there's a 1/32-in clearance between the firing plunger cap and the trigger plunger. You can get the proper clearance by putting the safety ON . . . then loosening the jam-nut . . . and finally adjusting the firing plunger cap.

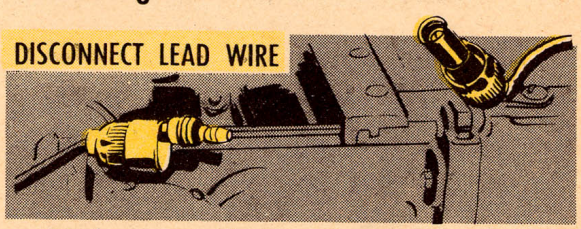
You A Circuit Breaker?

You can crawl over many sections of an M48A1 tank without doing any damage, but you've gotta be especially careful with one piece of equipment that goes with it—the solenoid on the .50-cal machine gun mount.

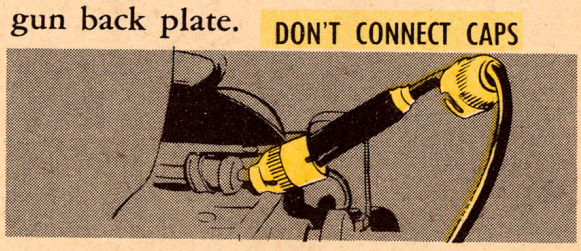
Unless you watch what you're doing when you enter or leave the tank, you can rip the wire from the top of the solenoid. Same thing'll happen if you remove the gun from the mount when you've got your thinker turned off.



Something else to think about . . .

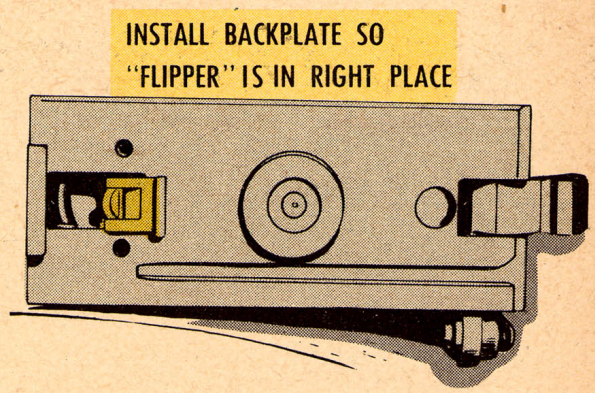


Make sure the lead wire is disconnected when you remove the machine gun back plate.



You can help matters by not connecting the caps over the coupling when you hook up the lead wires. This way it'll become a break-away connector.

Now'd also be a good time to talk about the solenoid trigger bar actuator. When installing the backplate, make sure the actuator (also known as the "flipper") is to the right or down over the energizer shaft so's it touches the trigger bar of the gun. Many a firing failure has been traced to a misplaced flipper.



M13 Elevation Quadrant —

Pull A Switch With The M36

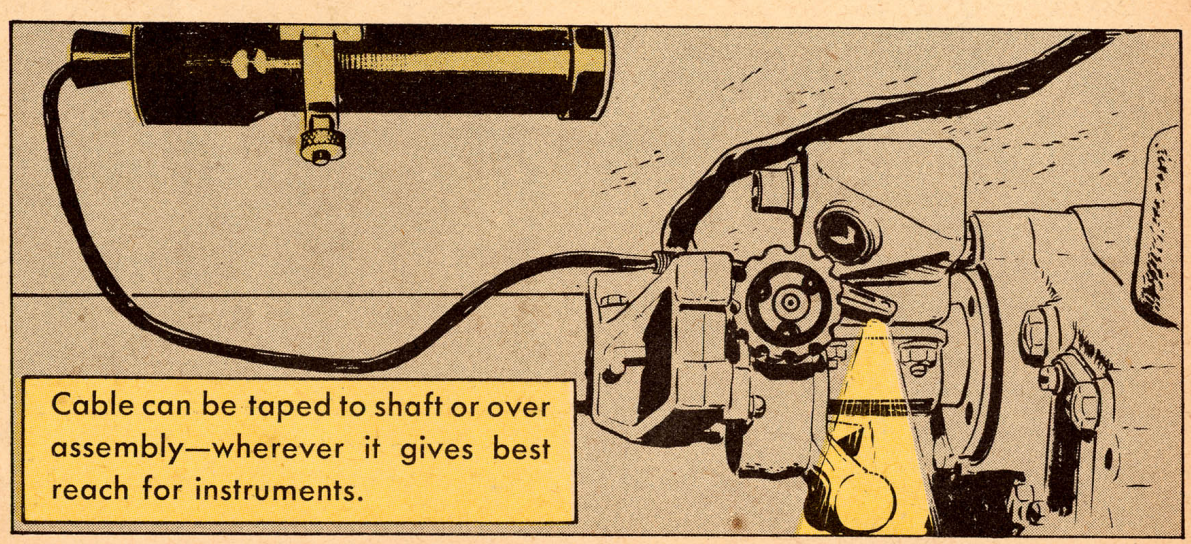
It's easy to solve the problem of not seeing the M13 elevation quadrant level vial bubble in the M48 tank. Get a little light on the subject, that's all.

Fellows complain they can't see the level vial bubble using the M30 instrument light. All they need is this switch fix:

Substitute the M36 instrument light for the M30. You can guide the light beam anywhere you want, because the lamp's on a flexible cord. Adjust her to shine on the scales and micrometer along with the level vial bubble.

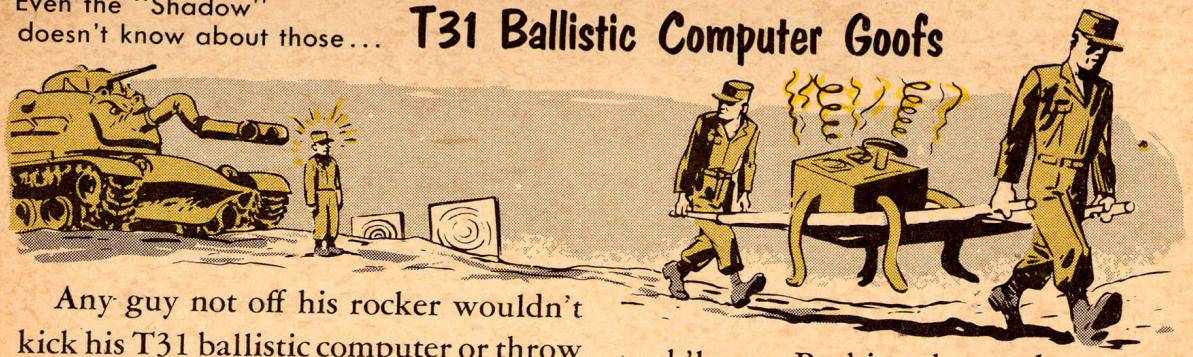
'Course, that M36 instrument light is normally used with the T156E1 telescope. That means you can pull her off the telescope and put her on the M13 elevation quadrant only when using indirect fire.

To light things up like a Christmas tree in a lighthouse, pull the lamp bracket off that M36 light. Everything gets all lit up. But first, find out if you're gonna violate blackout restrictions before pulling off that bracket.



Even the "Shadow" doesn't know about those...

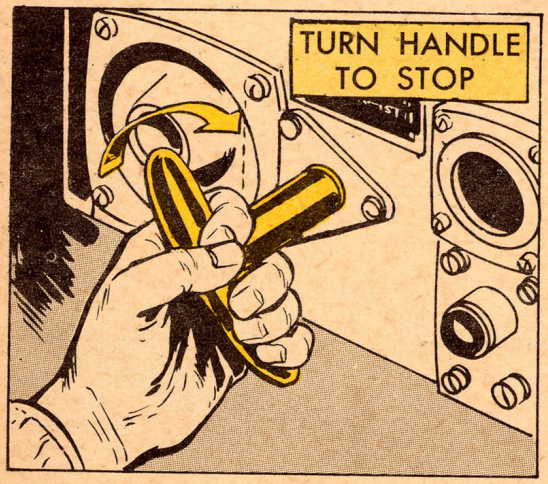
T31 Ballistic Computer Goofs



Any guy not off his rocker wouldn't kick his T31 ballistic computer or throw it out of his M48 tank and bet on the bounce.

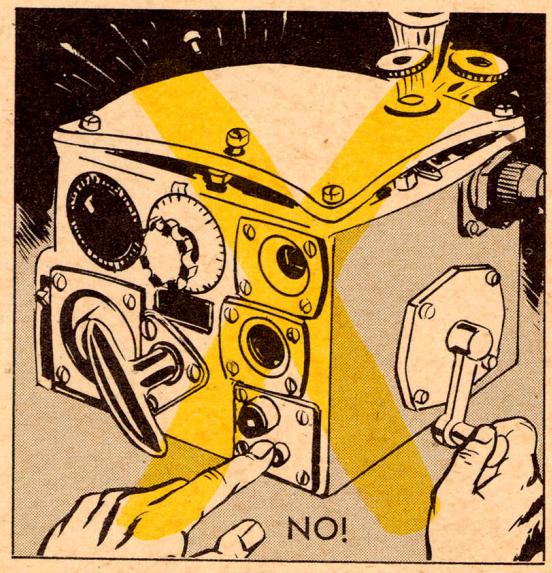
But there're some screwy operating methods that'll do just about as much harm.

F'rinstance, when selecting an ammunition cam, before doing it, turn the ammo selector handle to STOP... which is about 30 degrees clockwise (straight up and down). **Then** the handle can be moved in or out for selection.

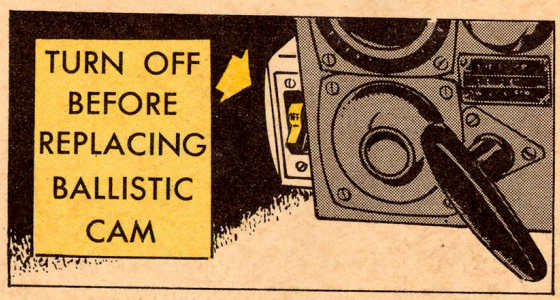


Forget to do it that way, and it's a goof. A detent gets damaged first, then the roller gets sheared by the cam follower.

Crazy as it sounds, some guys have pushed the reset button and elevation hand crank at the same time. Why? Maybe "the Shadow" knows, but prob'ly not. Pushing the crank puts you on manual, and pressing the button puts you on power operation. A push-press on both at the same time strips gears.



Another goof is forgetting to throw the circuit breaker to OFF before removing and replacing the ballistic cams. Forget and the gears strip if the reset button is pressed with the cams removed.



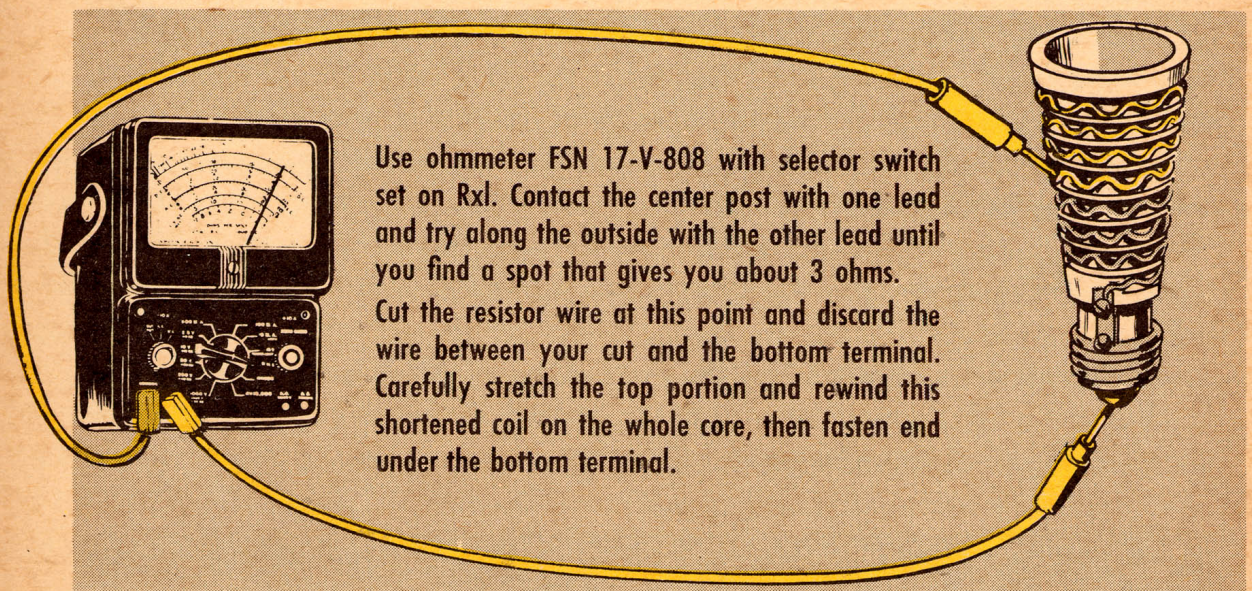
Natch, you wouldn't do any of those things. But keep on the lookout for eight-balls who might.

BATTERY STAND-IN

Here's a resistor made by the Illinois National Guard. It's used in place of batteries when running up their stored vehicles.

A truck can be started with a slave cable and run without a battery, but this has a tendency to cause glazing of the generator commutator. But, the use of either batteries or a proper resistor will let the generator produce a 5- to 8-ampere output without doing any harm.

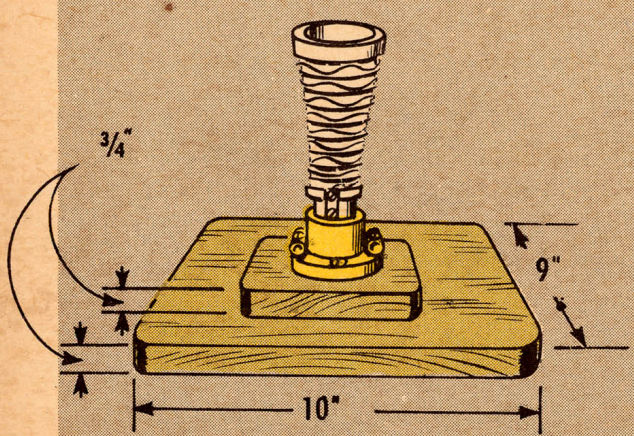
These resistors are made from a standard heater element, cone type, screw-in, 115-v, 1000-watt.



Use ohmmeter FSN 17-V-808 with selector switch set on Rxl. Contact the center post with one lead and try along the outside with the other lead until you find a spot that gives you about 3 ohms.

Cut the resistor wire at this point and discard the wire between your cut and the bottom terminal. Carefully stretch the top portion and rewind this shortened coil on the whole core, then fasten end under the bottom terminal.

CAREFUL: NEVER USE THIS WITH A 110-VOLT CURRENT.



To mount this shortened resistor, use a standard porcelain socket.

The base . . . use a 9 x 10-in piece of 3/4-in boxwood. For a cover use an old can with lots of ventilation holes tall enough to clear the element. Allow a couple of inches above the element for cooling.

Fit the open end of the tin can with another piece of wood and center it on your base.

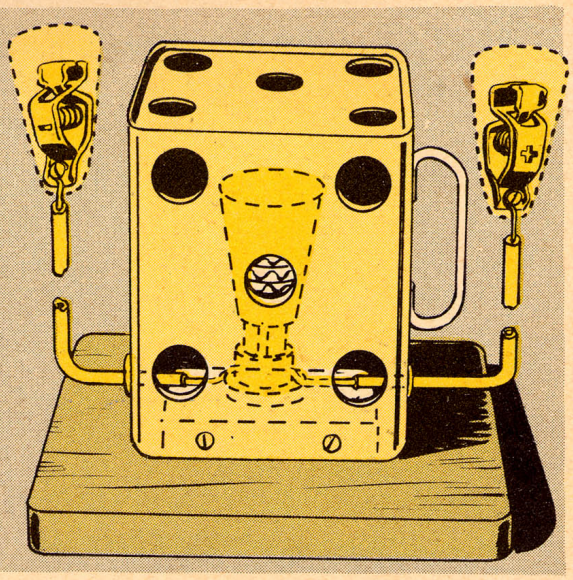
Get some asbestos paper, Eng Stock No. 33-7624.005.150, and tack 'em to the center block. Center the socket on the block.

MORE

Now attach a couple of heavy leads with "Mueller" #21C battery clips, covered with "Mueller" #23 flexible insulators. No. 8 wire (Ord Stock No. H005-0812367) leads totaling six feet should do it. Fasten the leads to the base with clips, Ord Stock No. H004-0502731.

Fasten cover can with small wood-screws. Leave large exit holes for the leads.

To use—slip the unit into the battery box and connect the leads to the ground cable and the positive cable and start truck with a slave cable, (being darn sure the polarity is correct.)



When the truck's running well, disconnect the slave cable. You'll find that by the time you have started about a dozen trucks, (you'll need a batch of resistors) the first one is ready to shut down. Kill it and take that resistor on down to use in another truck, and so on down the line.

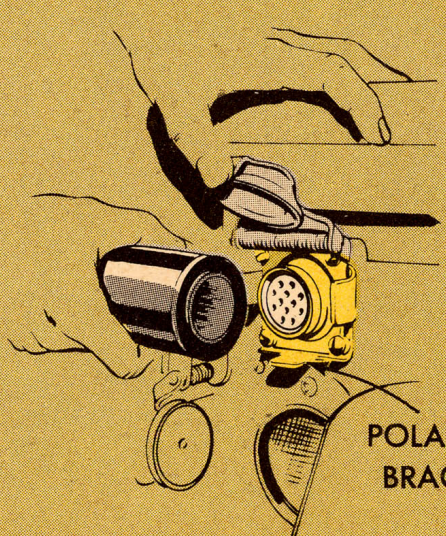
The main gain to this system is that you don't have to disturb a dozen sets of batteries on their storage line, and the resistor is much faster and easier to carry, handle and connect.

You'll have to bear in mind that the three-ohm resistor is for 24-volt systems only. O'course, you can make one for other systems . . . just cut for 1.5 ohms for a 12-volt truck, or .6 ohms for the 6-volt system.

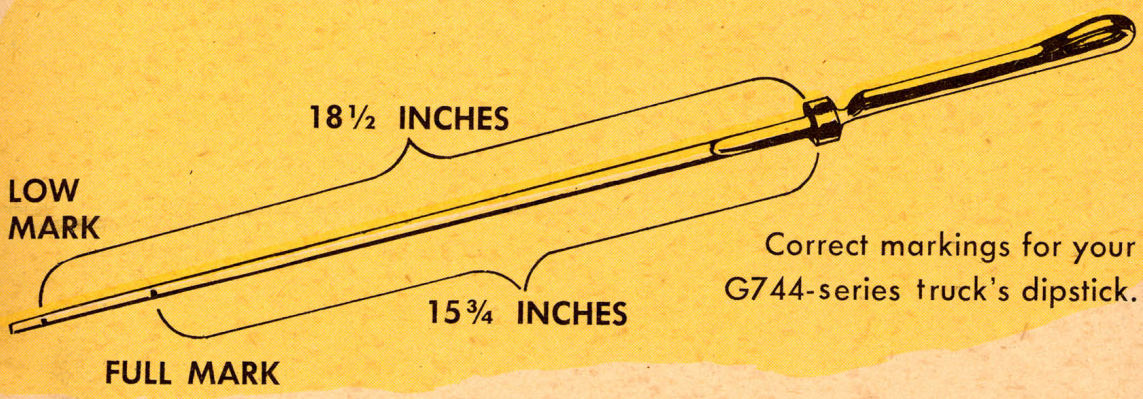
Steel Socket

Anyone who is troubled by breakage of the vehicle-to-trailer coupling receptacle will be happy to know that there is now a steel receptacle being issued under Ord Stock No. G258-8376209. This is more durable than the die cast types now on your M-series vehicles. Order it when you need a replacement.

And in the meantime, are you sure that MWO Ord G1-W35 has been performed on all your buggies? This is the one that calls for the polarizing bracket on the receptacle.



Dippy Dipsticks



Correct markings for your G744-series truck's dipstick.

Next time you check your oil, you may find your dipstick's different from your buddy's, even though you're both driving G744 series 5-ton trucks. Somewhere along the line three dipsticks appeared on the scene for these trucks, and it's been causing a little confusion.

The straight poop is now out—the stick you should be using goes under Ord Stock No. G744-7376338. It has three level marks on it. The over-all length of the stick is 19 3/16-in from the bottom of the screw cap to the end of the stick, or 19 1/16-in from the top edge of the screw cap to the end of the stick. You'll probably find that measuring from the bottom of the screw cap is a lot easier than measuring from the top of the cap, because it gives a natural stop for your ruler.

One other way to know this stick is by its markings: CHECK OIL LEVEL ONE MINUTE AFTER STOPPING ENGINE—DO NOT SCREW IN TO CHECK OIL—SCREW TIGHT AFTER CHECKING OIL.

Now, if you have a different kind of stick than this one, take it down to supply pronto, turn it in and get the right stick. That's all you have to do to get set.

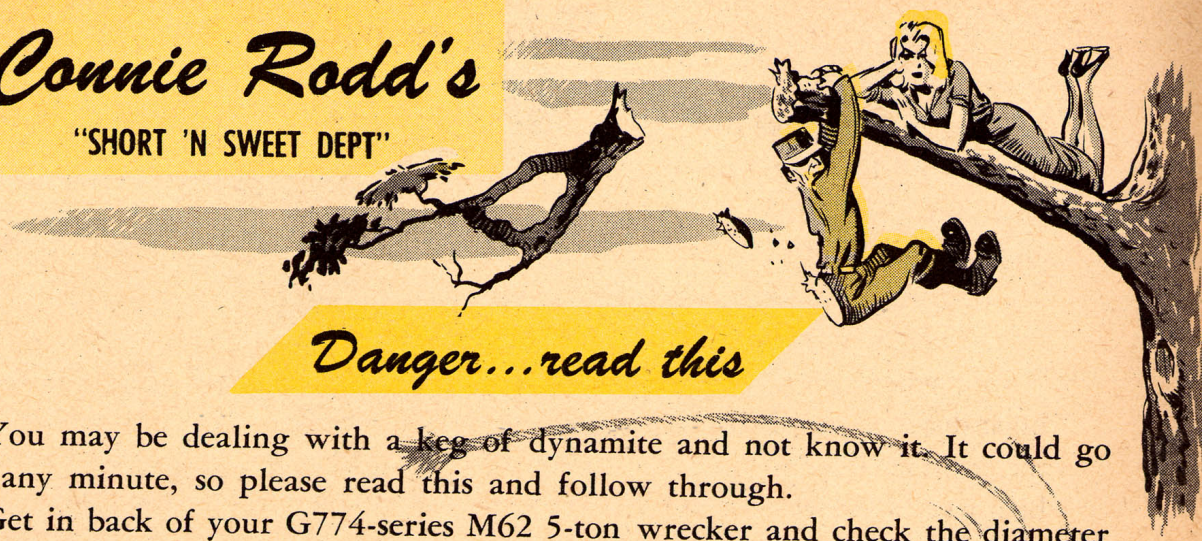
But, o'course, the problem always comes up—what do you do if supply hasn't got the right stick for you?

If you have a two-level mark stick and you can't get a three-marker . . . it's best to remark the other side. First, take your stick and measure down 15¾ inches from the **bottom** of the screw cap. Make a mark with a hammer and punch. This will be your top **full** mark. The **low** mark should be 18½ inches from the bottom edge of the screw cap. Scratch out all other marks on your stick and go by the two new limits.

One important point to remember: No matter which stick you have—the one that reads right or the one you just fixed—check your oil with the dipstick **unscrewed.** This is the only way to get an accurate reading. Don't forget, tho, to screw that dipstick in tight after you take your reading.

Connie Rodd's

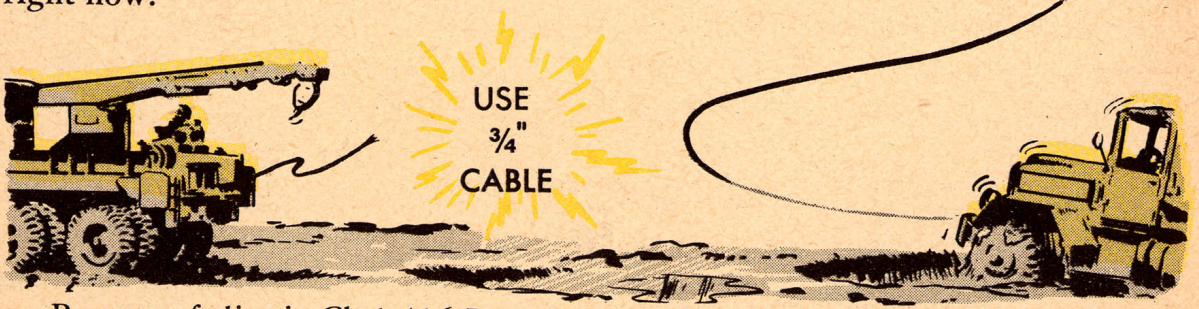
"SHORT 'N SWEET DEPT"



Danger...read this

You may be dealing with a keg of dynamite and not know it. It could go off any minute, so please read this and follow through.

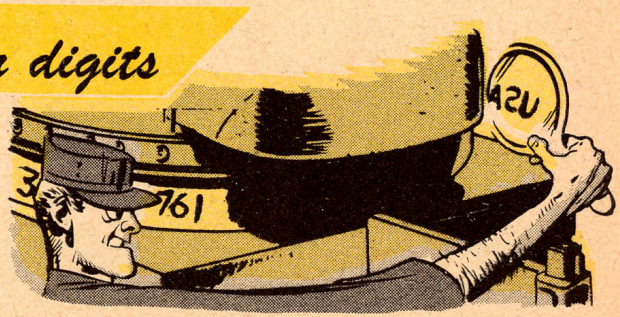
Get in back of your G774-series M62 5-ton wrecker and check the diameter of that rear winch cable. It should be ¾-in. If it's not, get it back to Ordnance right now.



Because of slips in Ch 1 (16 June 55) to old Ord 8 SNL G744 (June 54) and in new Ord 8 SNL G744 (Apr 56), your Ordnance outfit could have issued you a ⅝-inch cable (Ord Stock No. H009-0856-290: FSN 4010-285-4205). A few may have leaked out, so check.

That ¾-in cable (Ord Stock No. H009-0856310, FSN 4010-285-4210) has a capacity of 45,000 pounds, like TM 9-8028 (June 55) says. Decrease the diameter of that cable, like to ⅝ inch, and there's a good chance it'll snap under this load. Pity the poor guy who's in the way.

Check your digits



First chance you get...do a slow trot around your M55 trailer mount, stopping at first one side and then the other for a close look at the area right below the turret-ring gear. Take a long look at the sections where the M45C mount meets the M20 trailer.

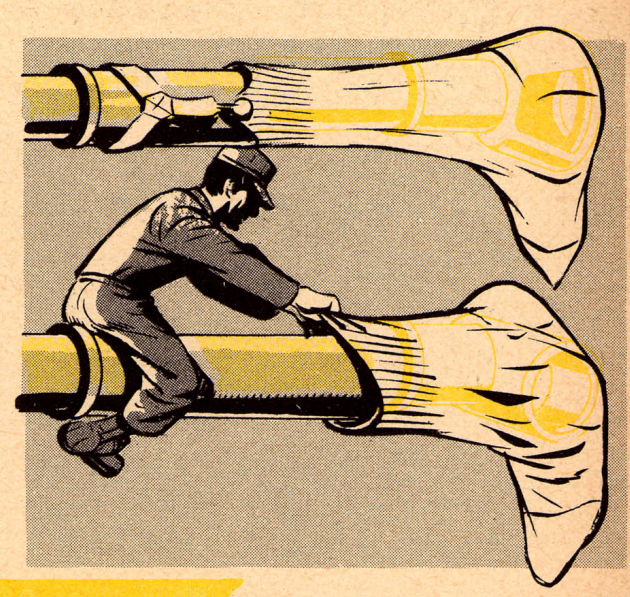
You should see a USA registration number stenciled on each side of the trailer. At least the numbers should be there.

If the numbers are missing or hard to figure out, tell your CO. He'll get word to Ordnance.

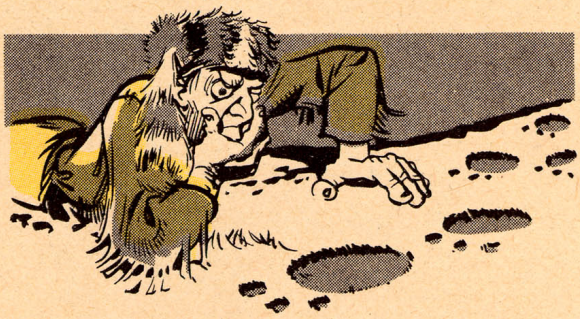
Swap covers

In most OVM sets for M47 and M48 tanks you'll likely find muzzle cover Ord Part No. 7727273, which is fine and dandy for 90-mm guns with the old style muzzle brake (Ord Part No. 7305834) or the counterweight.

But when your 90 sports the new blast deflector (Ord Part No. 7305844) the muzzle cover in the OVM sets will be a wee bit short. You'll have to swap the old canvas cap for a new muzzle cover. Just ask for Muzzle Cover, Ord Stock No. D052-8697301.



Make tracs

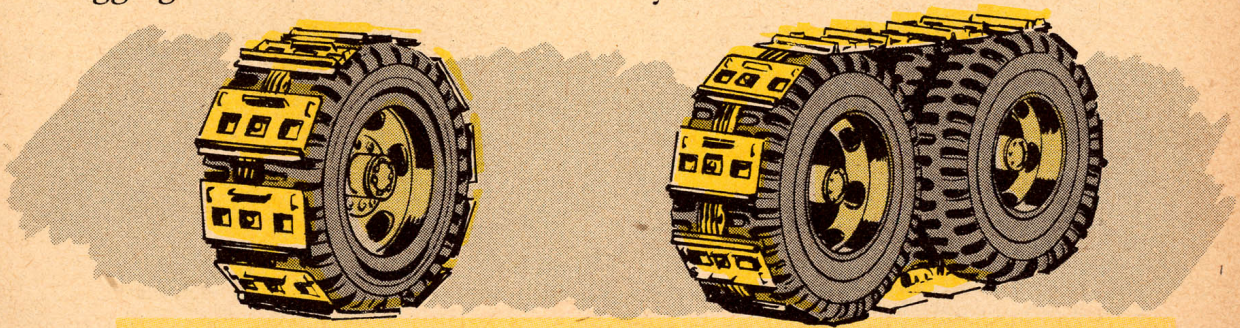


You fellers operating dual-wheeled trucks over messy terrain—in sand, snow, bogs, swamps or over tundra—will be happy to learn this. There's a traction device called a tyr-trac which you can get to keep those trucks from bogging down.

These tire gimmicks float and bite into the ground, giving you traction and send you right along. They can be used on dual-wheeled and tandem dual-wheeled jobs.

For 9.00x15 through 12.00x20 tires, use Ord Stock No. H014-0520767 (FSN 2530-693-1021-H014) on your requisition. For tires below this, up to and including 8.25x20 tires, use Ord Stock No. H014-0520766 (FSN 2530-693-1020).

On your requisition, along with the stock number, put down the reason you need them.



PARA 74 OF TM 9-1870-1 (FEB 55) TELLS YOU HOW TO USE 'EM.

Job for ordnance

LO 9-7004 ought to tell you to have Ordnance repack the traversing and elevating gear boxes on the M44 self-propelled howitzer twice a year.

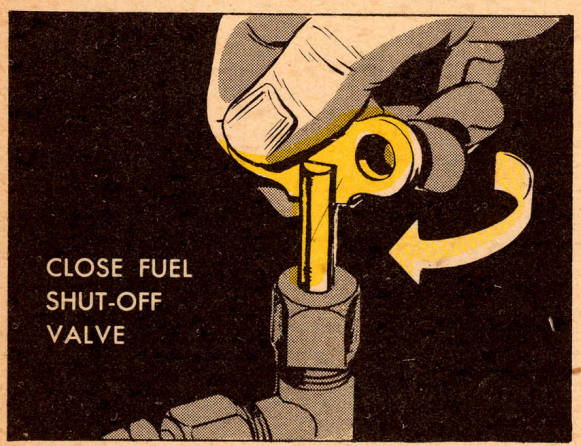
So, right now...add a note to your LO as a reminder to ask Ordnance to put some GAA in those gear boxes semi-annually. And, if it's been more'n six months since those gears were worked on, get the job done quick-like.

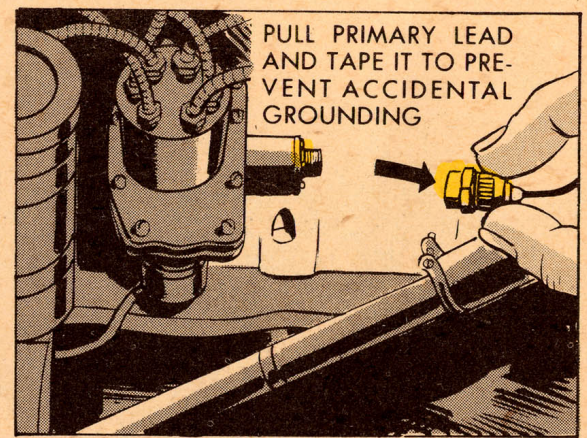
Remember: Those gear boxes get hit with all kinds of weather when their canvas covering's off, making it darn important to get 'em repacked. You'll see this dope on the revised LO.

Make it safe

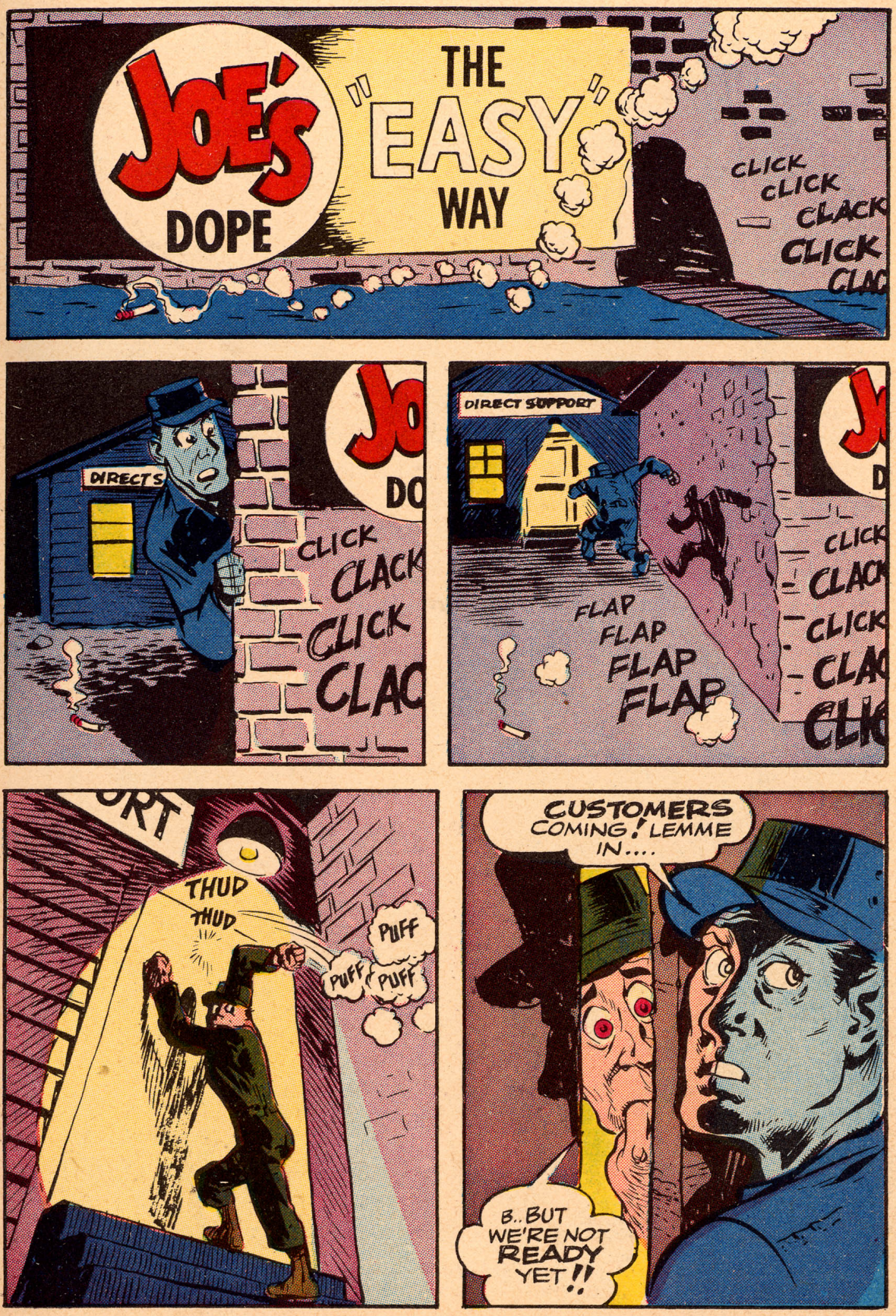
Grab hold of your TM 9-7002 (Apr 54) on the M59 armored infantry vehicle and make this note next to para 103d. Might as well stick this poop upstairs in that gray matter, also—it's important.

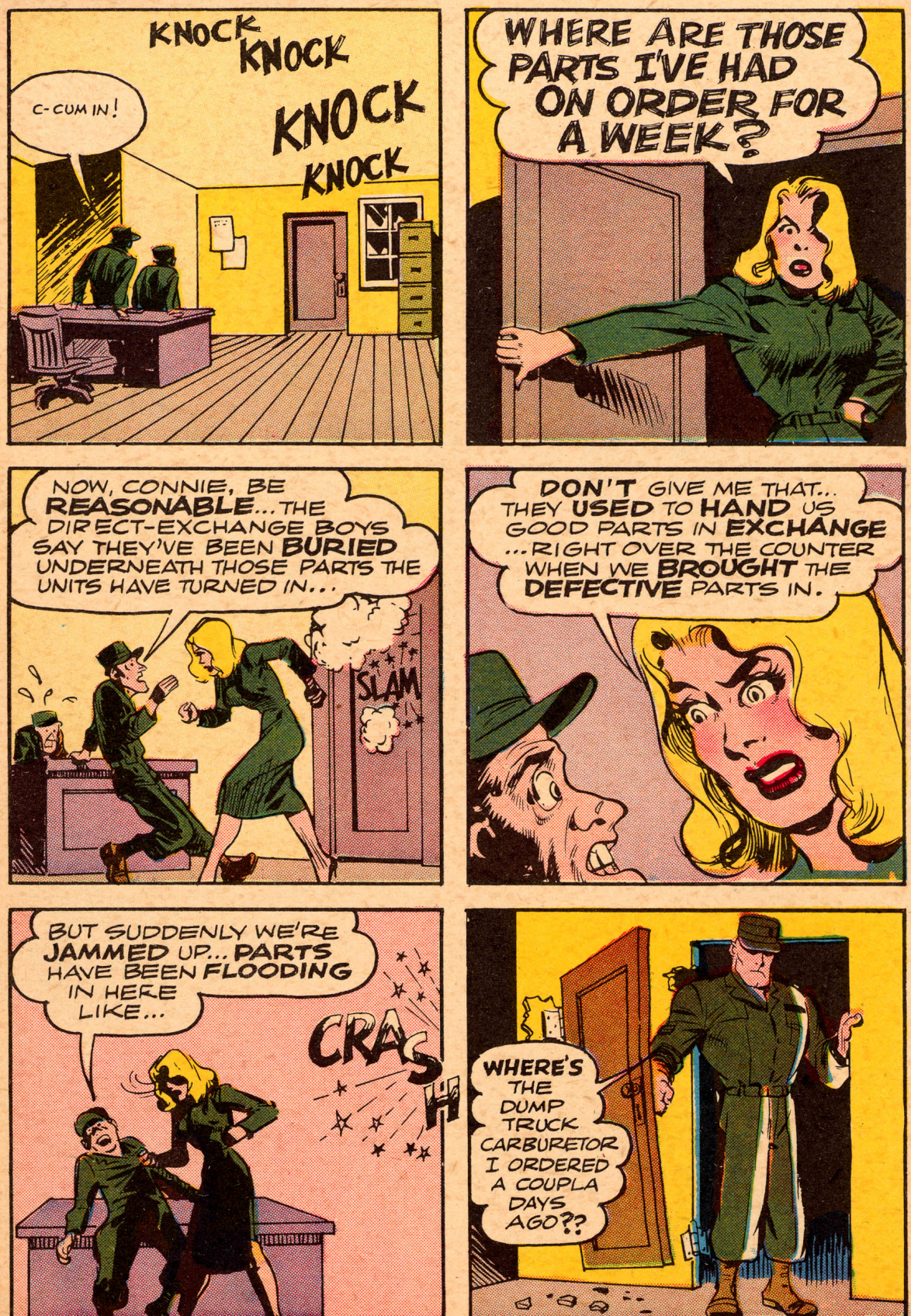
Before cranking your engine to get a compression reading:

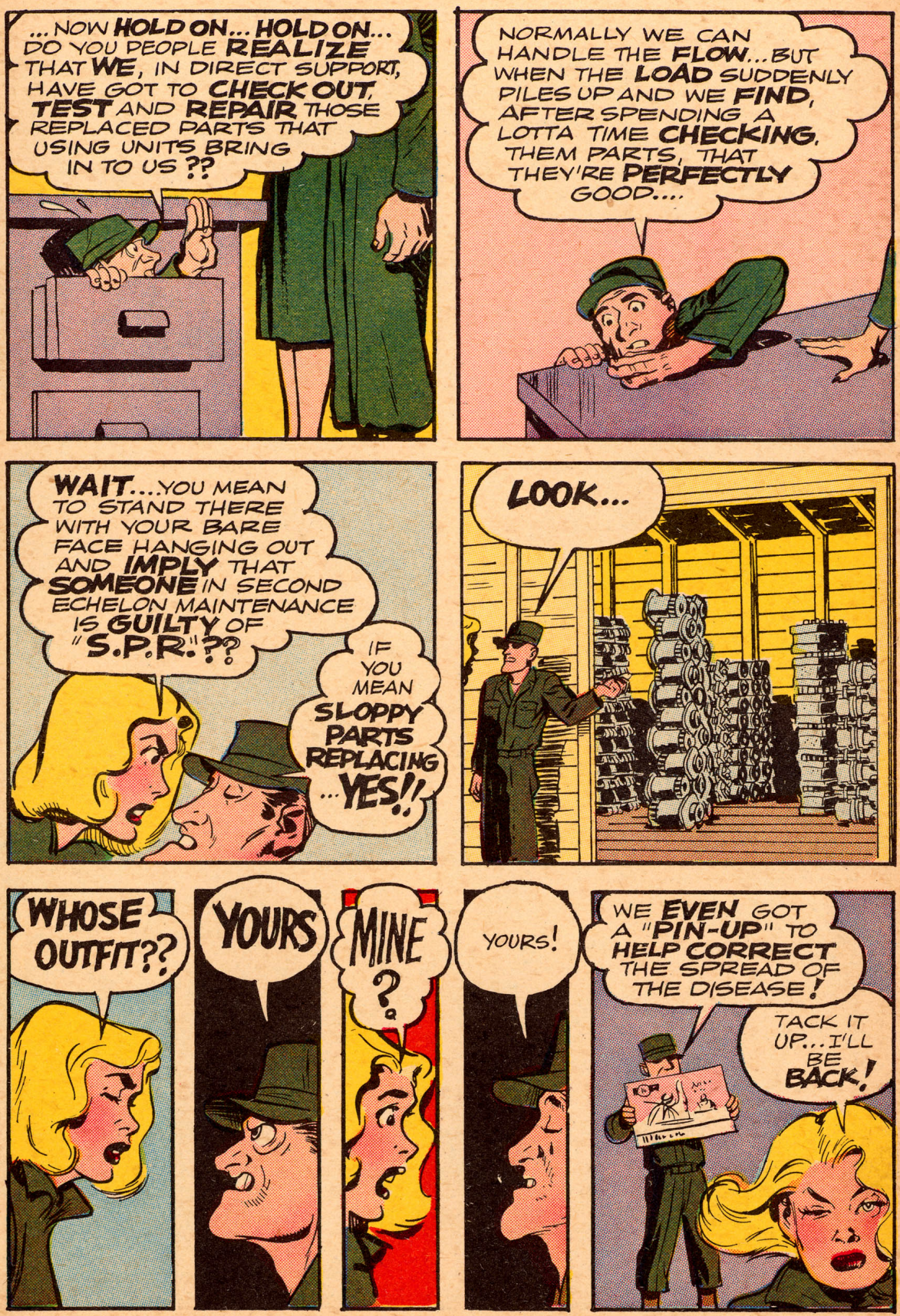


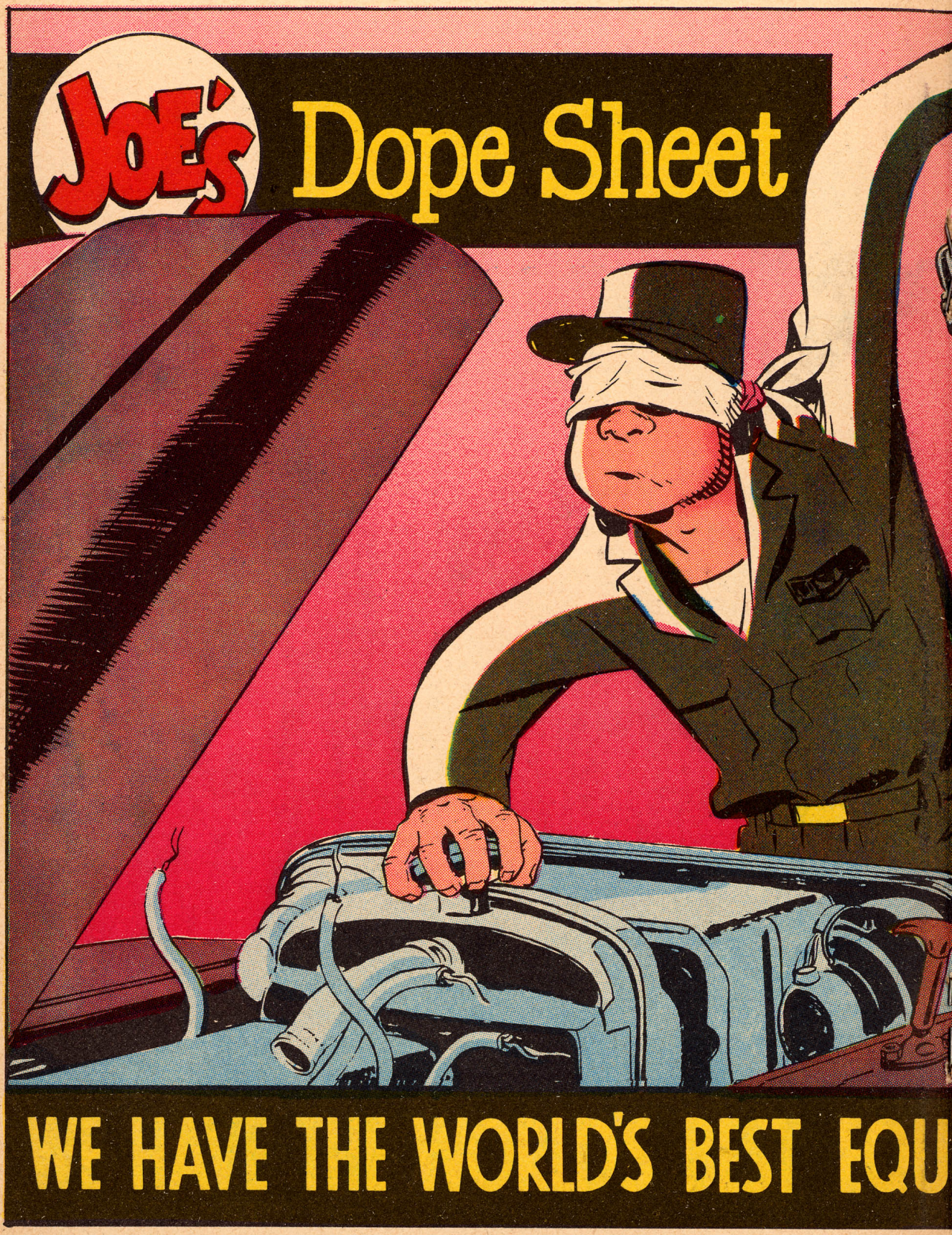


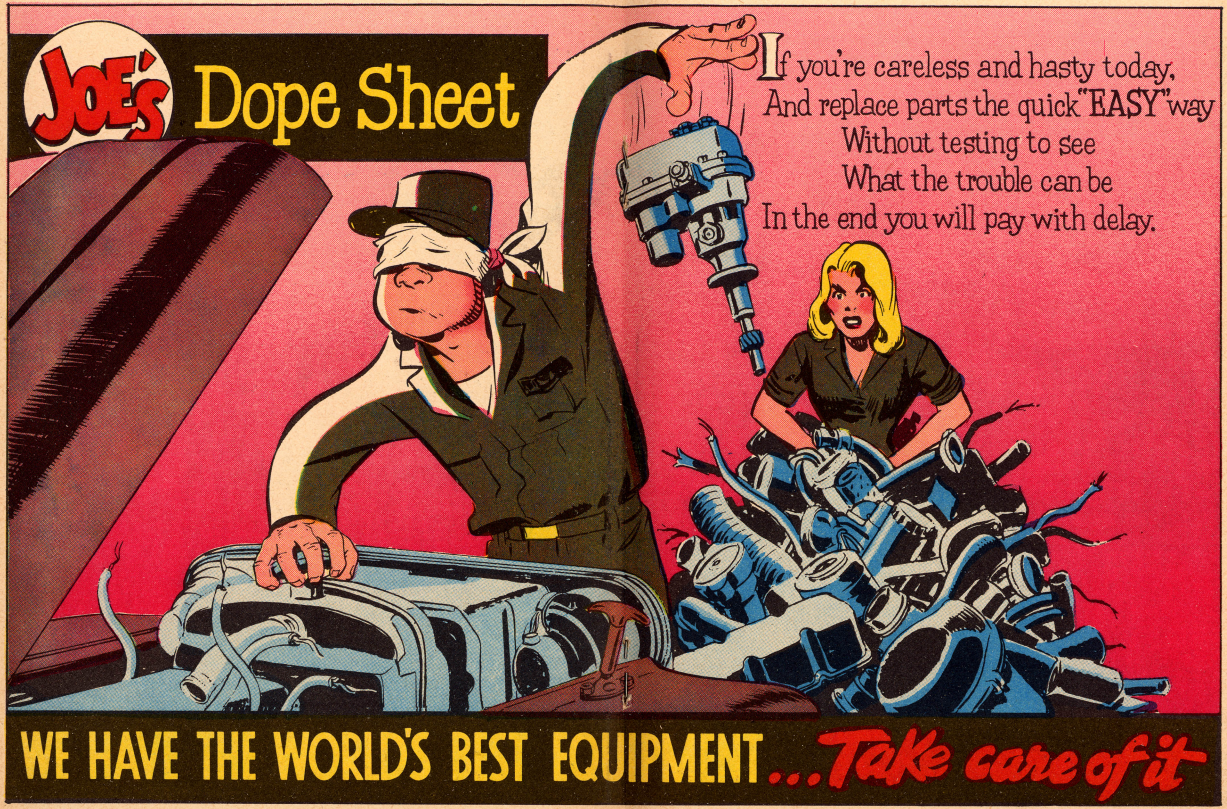
There have been a few cases of gas vapors being ignited—and I can't afford to lose any friends.

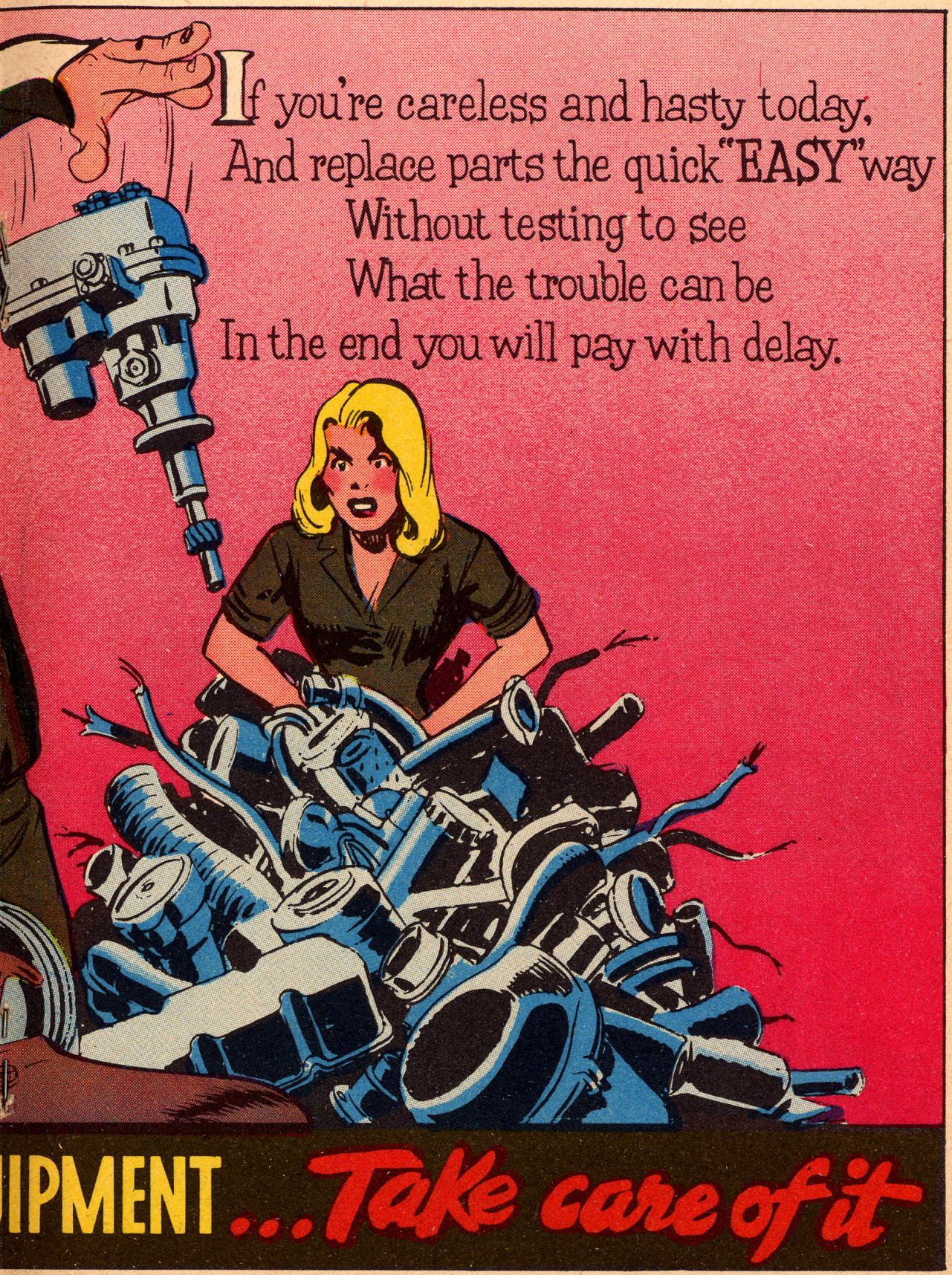

JOE'S DOPE
THE "EASY" WAY
CLICK CLICK CLACK CLICK CLAC
DIRECT S
CLICK CLACK CLICK CLAC
DIRECT SUPPORT
FLAP FLAP FLAP FLAP
CLICK CLACK CLICK CLAC
ORT
THUD THUD
PUFF PUFF PUFF
CUSTOMERS COMING! LEMME IN....
B..BUT WE'RE NOT READY YET!!

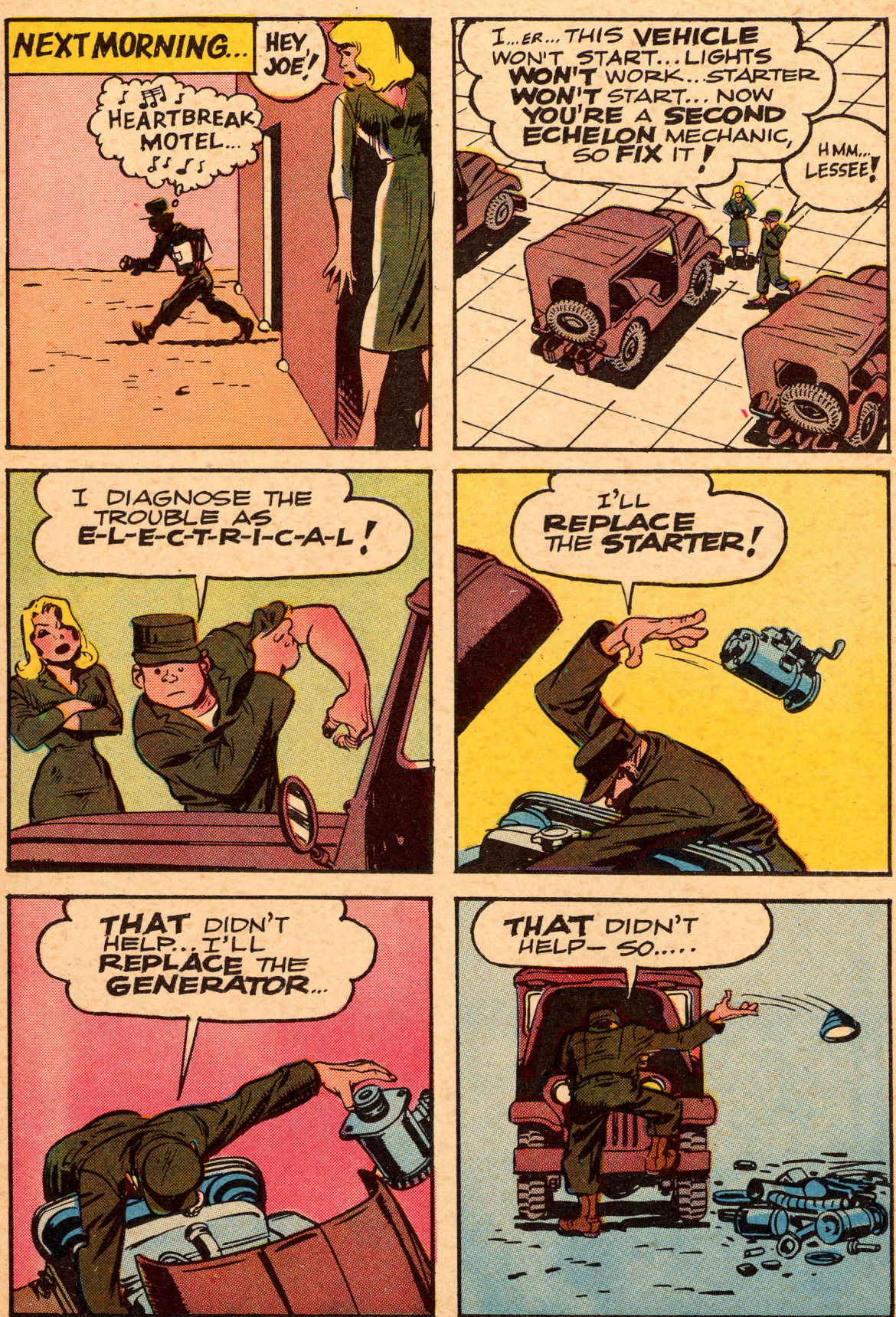

KNOCK KNOCK
KNOCK KNOCK
C-CUM IN!
WHERE ARE THOSE PARTS I'VE HAD ON ORDER FOR A WEEK?
NOW, CONNIE, BE REASONABLE... THE DIRECT-EXCHANGE BOYS SAY THEY'VE BEEN BURIED UNDERNEATH THOSE PARTS THE UNITS HAVE TURNED IN...
SLAM
DON'T GIVE ME THAT... THEY USED TO HAND US GOOD PARTS IN EXCHANGE ...RIGHT OVER THE COUNTER WHEN WE BROUGHT THE DEFECTIVE PARTS IN.
BUT SUDDENLY WE'RE JAMMED UP... PARTS HAVE BEEN FLOODING IN HERE LIKE...
CRASH
WHERE'S THE DUMP TRUCK CARBURETOR I ORDERED A COUPLA DAYS AGO??

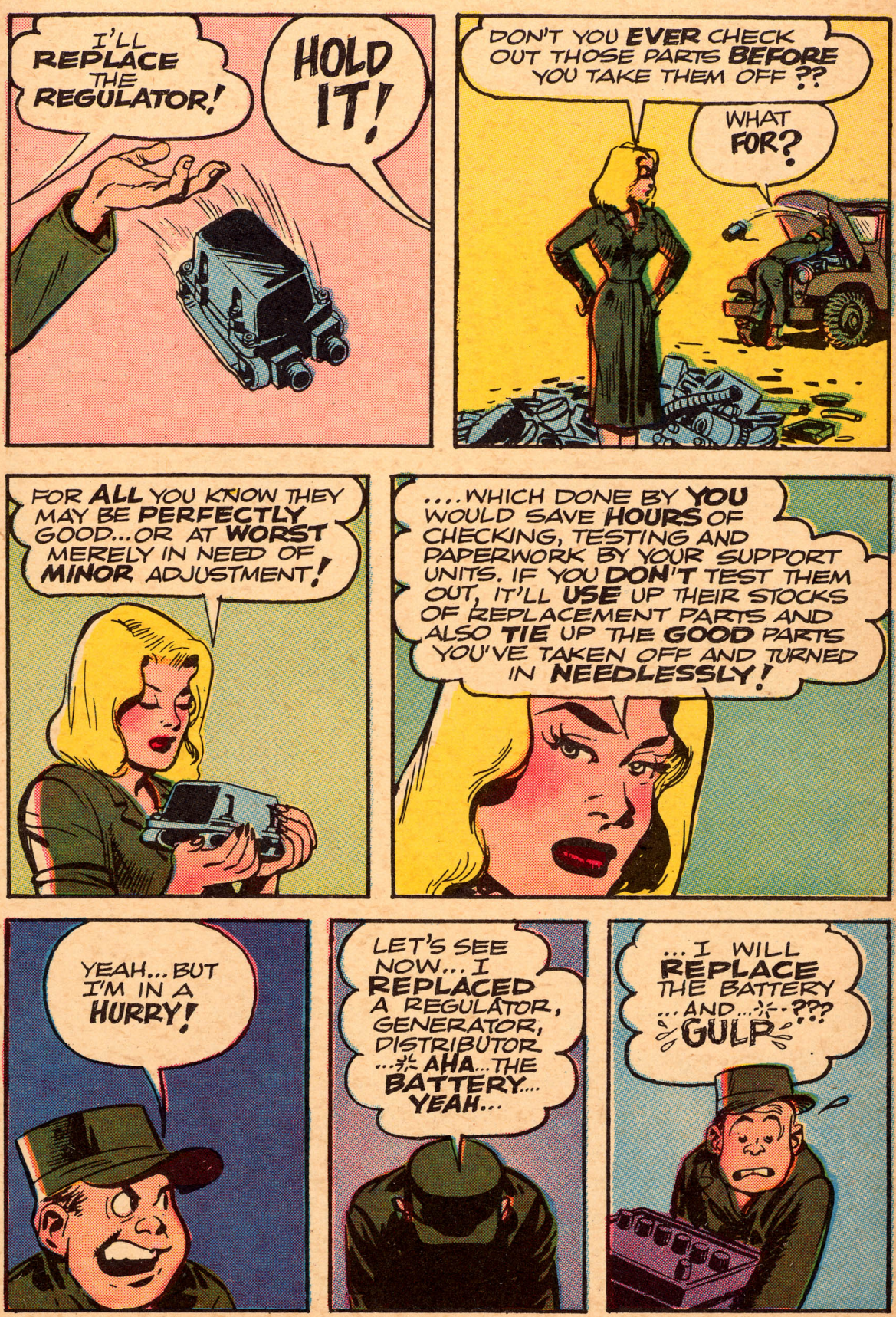

...NOW HOLD ON... HOLD ON... DO YOU PEOPLE REALIZE THAT WE, IN DIRECT SUPPORT, HAVE GOT TO CHECK OUT, TEST AND REPAIR THOSE REPLACED PARTS THAT USING UNITS BRING IN TO US ??
NORMALLY WE CAN HANDLE THE FLOW... BUT WHEN THE LOAD SUDDENLY PILES UP AND WE FIND, AFTER SPENDING A LOTTA TIME CHECKING, THEM PARTS, THAT THEY'RE PERFECTLY GOOD....
WAIT....YOU MEAN TO STAND THERE WITH YOUR BARE FACE HANGING OUT AND IMPLY THAT SOMEONE IN SECOND ECHELON MAINTENANCE IS GUILTY OF "S.P.R."??
IF YOU MEAN SLOPPY PARTS REPLACING ...YES!!
LOOK...
WHOSE OUTFIT??
YOURS
MINE ?
YOURS!
WE EVEN GOT A "PIN-UP" TO HELP CORRECT THE SPREAD OF THE DISEASE!
TACK IT UP... I'LL BE BACK!

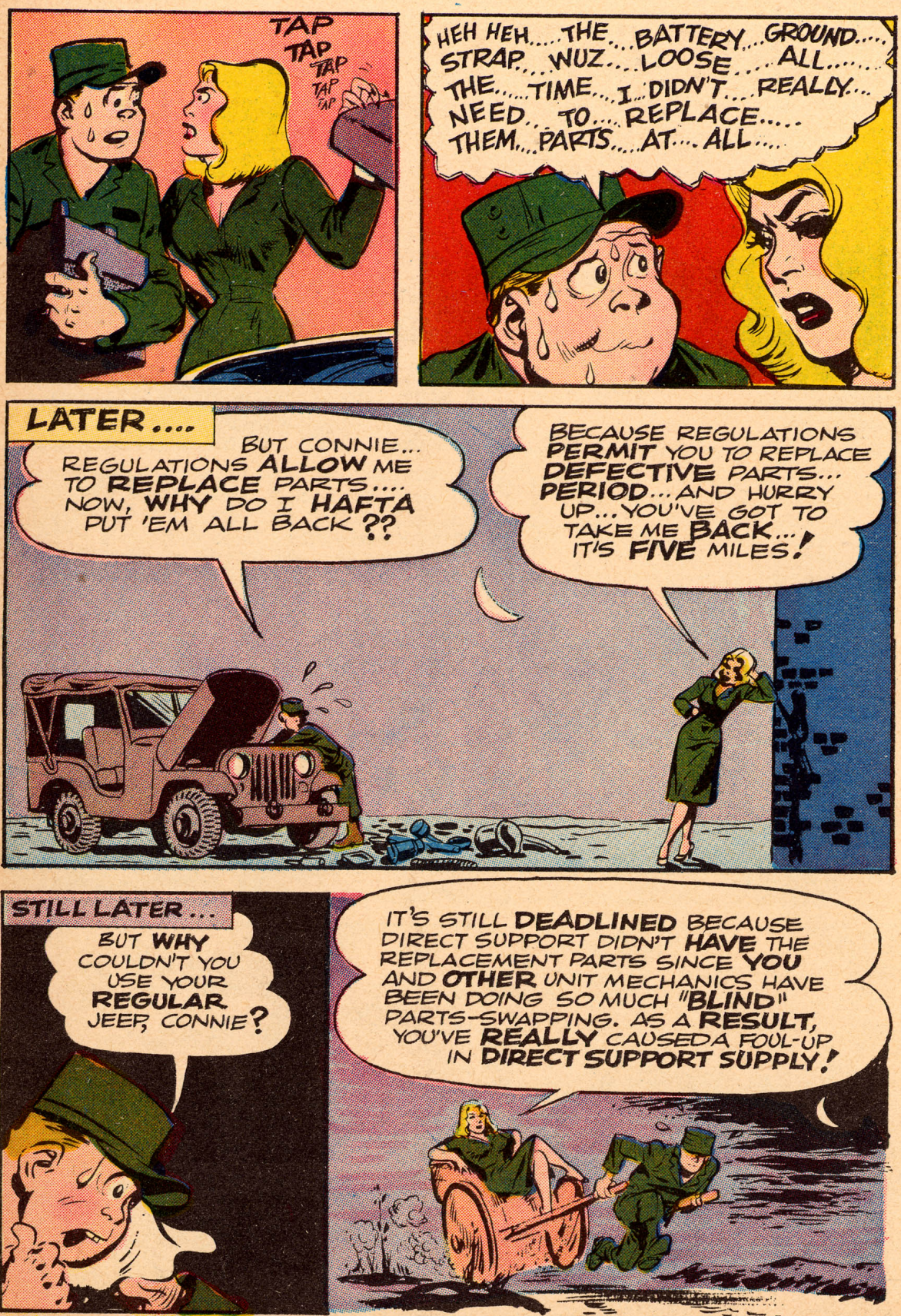

JOE'S
Dope Sheet
WE HAVE THE WORLD'S BEST EQU


JOE'S Dope Sheet
If you're careless and hasty today,
And replace parts the quick "EASY" way
Without testing to see
What the trouble can be
In the end you will pay with delay.
WE HAVE THE WORLD'S BEST EQUIPMENT... Take care of it


If you're careless and hasty today,
And replace parts the quick "EASY" way
Without testing to see
What the trouble can be
In the end you will pay with delay.
IPMENT ... Take care of it


NEXT MORNING...
HEY JOE!
HEARTBREAK MOTEL...
I...ER... THIS VEHICLE WON'T START... LIGHTS WON'T WORK... STARTER WON'T START... NOW YOU'RE A SECOND ECHELON MECHANIC, SO FIX IT!
HMM... LESSEE!
I DIAGNOSE THE TROUBLE AS E-L-E-C-T-R-I-C-A-L!
I'LL REPLACE THE STARTER!
THAT DIDN'T HELP... I'LL REPLACE THE GENERATOR...
THAT DIDN'T HELP— SO.....


I'LL REPLACE THE REGULATOR!
HOLD IT!
DON'T YOU EVER CHECK OUT THOSE PARTS BEFORE YOU TAKE THEM OFF ??
WHAT FOR?
FOR ALL YOU KNOW THEY MAY BE PERFECTLY GOOD...OR AT WORST MERELY IN NEED OF MINOR ADJUSTMENT!
....WHICH DONE BY YOU WOULD SAVE HOURS OF CHECKING, TESTING AND PAPERWORK BY YOUR SUPPORT UNITS. IF YOU DON'T TEST THEM OUT, IT'LL USE UP THEIR STOCKS OF REPLACEMENT PARTS AND ALSO TIE UP THE GOOD PARTS YOU'VE TAKEN OFF AND TURNED IN NEEDLESSLY!
YEAH... BUT I'M IN A HURRY!
LET'S SEE NOW... I REPLACED A REGULATOR, GENERATOR, DISTRIBUTOR ...AHA... THE BATTERY.... YEAH...
... I WILL REPLACE THE BATTERY ... AND ... ??? GULP


TAP TAP TAP TAP TAP
HEH HEH.... THE... BATTERY... GROUND.... STRAP... WUZ... LOOSE.... ALL..... THE..... TIME... I... DIDN'T... REALLY... NEED.. TO.... REPLACE..... THEM... PARTS.... AT.... ALL....
LATER....
BUT CONNIE... REGULATIONS ALLOW ME TO REPLACE PARTS.... NOW, WHY DO I HAFTA PUT 'EM ALL BACK ??
BECAUSE REGULATIONS PERMIT YOU TO REPLACE DEFECTIVE PARTS... PERIOD... AND HURRY UP... YOU'VE GOT TO TAKE ME BACK... IT'S FIVE MILES!
STILL LATER...
BUT WHY COULDN'T YOU USE YOUR REGULAR JEEP, CONNIE?
IT'S STILL DEADLINED BECAUSE DIRECT SUPPORT DIDN'T HAVE THE REPLACEMENT PARTS SINCE YOU AND OTHER UNIT MECHANICS HAVE BEEN DOING SO MUCH "BLIND" PARTS-SWAPPING. AS A RESULT, YOU'VE REALLY CAUSED A FOUL-UP IN DIRECT SUPPORT SUPPLY!

In the Spring . . .

DUMP ANTI-FREEZE

Things have changed—the results are in—that anti-freeze you drain out of your truck's radiator this Spring just won't do no more. From now on she's going to get new stuff every Fall.

When you drain that anti-freeze from your truck, don't save it for next year—get rid of it starting now. Your truck'll get new, clean, fresh stuff every Fall to put it in shape for that cold weather ahead.

This means that you'll drain your cooling system twice a year. In the Spring to get ready for hot weather, you'll open your radiator cocks and engine block drains and let the old anti-freeze out. Then, if your cooling systems need it, (if they're clogged or rusty) you'll clean it with cleaning compound and neutralizer—this kit goes under FSN 51-C-1567-605 and FSN 6850-272-9327. Add the rust inhibitor you'll find in the kit.

If your system doesn't need cleaning compound but you want to add rust inhibitor only, you can get the inhibitor separate by ordering Ord Stock No. 51-C-1588-775 or FSN 6850-281-1989.

Comes the fall and colder weather, again you'll drain the system. And this time you'll add new anti-freeze.

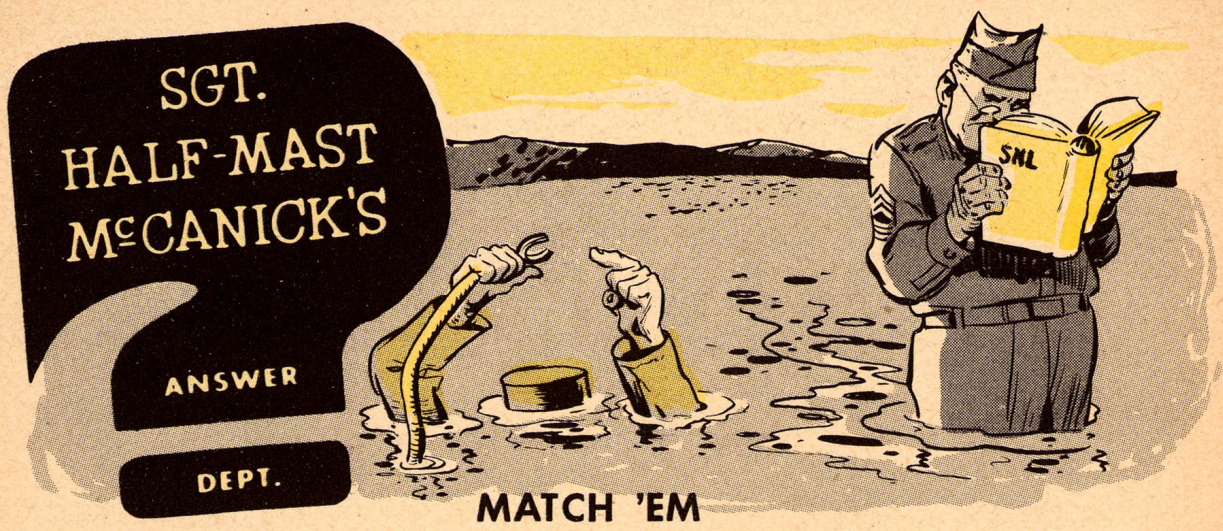
If you're in an area where the temperature goes from freezing (32° F to −60° F,) you'll use these stock numbers to get your ethylene-glycol—

FSN 6850-243-1992—1-gal container (for stateside);
FSN 6850-243-1993—1-gal container (for overseas);
FSN 6850-243-1990—55-gal drum (for depot shops, arsenals and motor pools);
FSN 6850-224-8730—5-gal container.

In places where it gets colder than − 60° F, then you'll want the Arctic grade of stuff—FSN 6850-174-1806 (55-gal drums).

By the way, that little caution poop on the anti-freeze cans is coming off, and there'll be a little note in its place telling what to do. You know, the one that says, "Warning, do not store in temperatures lower than zero degrees Fahrenheit." It's now been established that it does no harm, but you've got to thaw it out before you can pour it.

TB Ord 651 (23 Aug 56) gives you the go ahead sign on all this dope.



MATCH 'EM

Dear Half-Mast,

Where do we get the stock numbers and authority to requisition parts for the Bendix and Douglas waterproof electrical connectors repair kits?

Lt A. B. A.

Dear Lt A. B. A.,

Your vehicle Ord 7 SNL is the answer to both of your problems. You rate only one Bendix and one Douglas kit, but you can replace any of their parts.

Your SNL lists all the parts in those kits complete with nomenclature, manufacturer's part number and Ordnance part number. These parts are also listed as separate items in your SNL's 06 Group. Just look them up as you would any other part — to help you get the right item after you find the separately listed item, cross reference its nomenclature, etc. with the one you need listed in the kit.

Say, for instance, you want to replace a grommet (Ord Part No. 7722343). All you do is look at the list of grommets and pick out the one that has the same Ord part number, then look at the Ord stock number which is G251-7722343, and you've got it made.

If you feel your requisition may get kicked back, put a note on it saying that the parts are needed to replace parts used from your kit.

Half-Mast

NEED A BRACKET?

Dear Half-Mast,

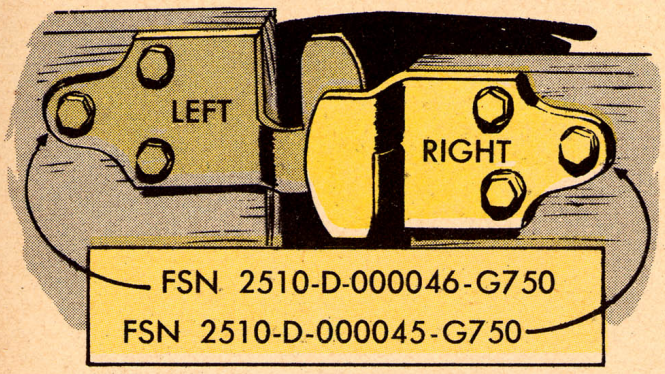
Where can I get my hands on some lock brackets, both left and right side panels, for my M127 12-ton trailers? We need them bad, but can't get them because they're only in Ord 9 SNL G-750 (27 Feb 53).

Capt L. T. C.

Dear Capt L. T. C.,

Got some good news for you, Sir. Because those brackets are in great demand, they've now been put back into the supply system.

That left side-panel bracket (Ord Part No. 7979047) can now be had by ordering it under FSN 2510-D-000046-



G750. The right panel bracket (Ord Part No. 7979048) has been placed into supply under FSN 2510-D-000045-G750.

Both of these will show up in the next revision to Ord 7 SNL G750 on the 12-ton M127 trailer.

Half-Mast

DRAGGIN' WAGON DRAGGIN'?

Dear Half-Mast,

Why are we getting M26A1 truck tractors into this shop which have flubbed emergency brakes?

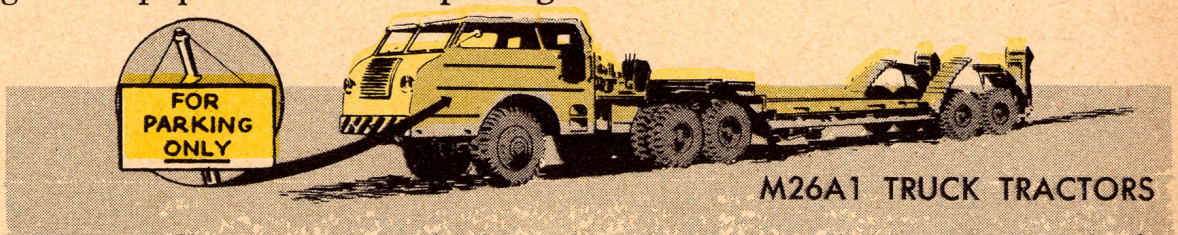
The ones we've seen have the brake drums sheared from the shaft, and sometimes the drum itself is broken around the edges. Why?

Mr. L. E. D.

Dear Mr. L. E. D.,

It's quite likely that those brakes are fouling, simply because the guys using 'em are using 'em for the wrong thing.

Trying to stop that hulk of bulk with an emergency brake is taboo—it'll knock the gismos right out of those drums. These emergency brakes, just like any other, are to be used only in two kinds of situations—in an emergency when you've **got** to stop quick-like and for parking.



Wrong adjustment of that brake, although a not-too-likely cause, may also be starting the trouble. A dragging brake could generate enough heat to raise cain with the drums. You'll know that brake's OK if it holds the vehicle on an incline and has about ⅓ of the handbrake lever in reverse.

MWO G160-W4 (7 Apr 55) was put out to give better braking when you carry heavier loads. It was a depot job and should have been done when the vehicle was overhauled. But, if you're having continual trouble and you know your drivers are doing right by that brake, take the matter up with your Ordnance officer.

It's also a swell idea to get a UER (DA Form 468) off to the Chief of Ordnance, Washington 25, D. C., ATTN: ORDFM. This way the people who designed the brake will know what's up.

Half-Mast

M74 FINAL DRIVE

Dear Half-Mast,

We recently replaced a final drive on our M74 VTR with a final drive for an M4A3 tank. Now the VTR steers more sharply to one side than to the other. Is there a modification in the final drives between these two vehicles?

Lt D. S. R.

Dear Lt D. S. R.,

The correct final gear set for the M74 VTR is Ord Stock No. G232-5700694 (FSN 2520-570-0694.) The ratio is 3.36 to 1.

This is the gear train which was used in the "assault tanks," a heavier armored version of the M4's during World War II. It's not the same final drive used on the M4A3. On the VTR it gives you a higher ratio for greater towing power.

You'd better get the right gears in your M74 as soon as you can, because driving it with unmatched final drive ratios will make your differential spider gears spin like crazy all the time, and they're only meant to revolve when you're turning.

Half-Mast

WHO'S 'LITTLE JOE'?

Dear Half-Mast,

Where did the term "Little Joe" for the auxiliary engine and generator originate? Does anybody know?

Lt A. C. B., Jr.

Dear Lt A. C. B., Jr.,

Well, I had an idea it was tied up with "Little Joe from Kokomo," mentioned after pay call now and then. He had something to do with a blanket and foot locker. Anyhow, bein's the point was four, and the early Wisconsin engines

had four cylinders, there might have been a connection. Remember that soldiers were once known as "GI Joe." Maybe there's the answer.

To make sure, I asked around, both in the Army and among manufacturers. Ten different places gave me ten different answers.

One says it began at Fort Hood in 1947; another says it was used as far back as World War I. Somebody else said a manufacturer named it way back in the 1930's, but that manufacturer says he didn't. That's the way the answers went. Most confusing.

Maybe the name, like lots of things, "just growed." Who knows?

Half-Mast

CAN BE DONE

Dear Half-Mast,

It's impossible to clean the oil filter element for the main engine on the cargo tractor M8E1 without rolling the power pack out on its rails. We do this quarterly; therefore, we think the LO should be changed to read quarterly (inspect, clean, and install). How 'bout it, Sarge?

Lt W. W. D.

Dear Lt W. W. D.,

Changing the weekly interval of taking care of the oil filter element just can't be done . . . too dangerous! Your tractor's engine would be sure to get all bunged up before too long, and that's no good.

Here's something you can do which'll make the job a lot easier. If you'll open the grilles for the muffler compartment and peer into 'er you'll find a plate with 10 bolts and 10 studs holding it down. This plate is located below and to the rear of the muffler. The plate'll have to be removed, but before you do it be sure that the muffler isn't hot, else you may end up with the "hot seat."

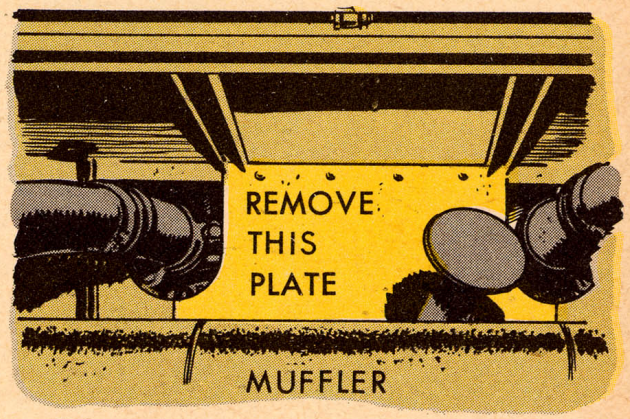
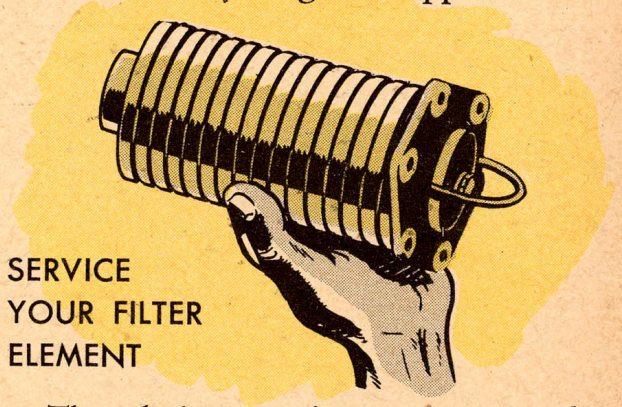


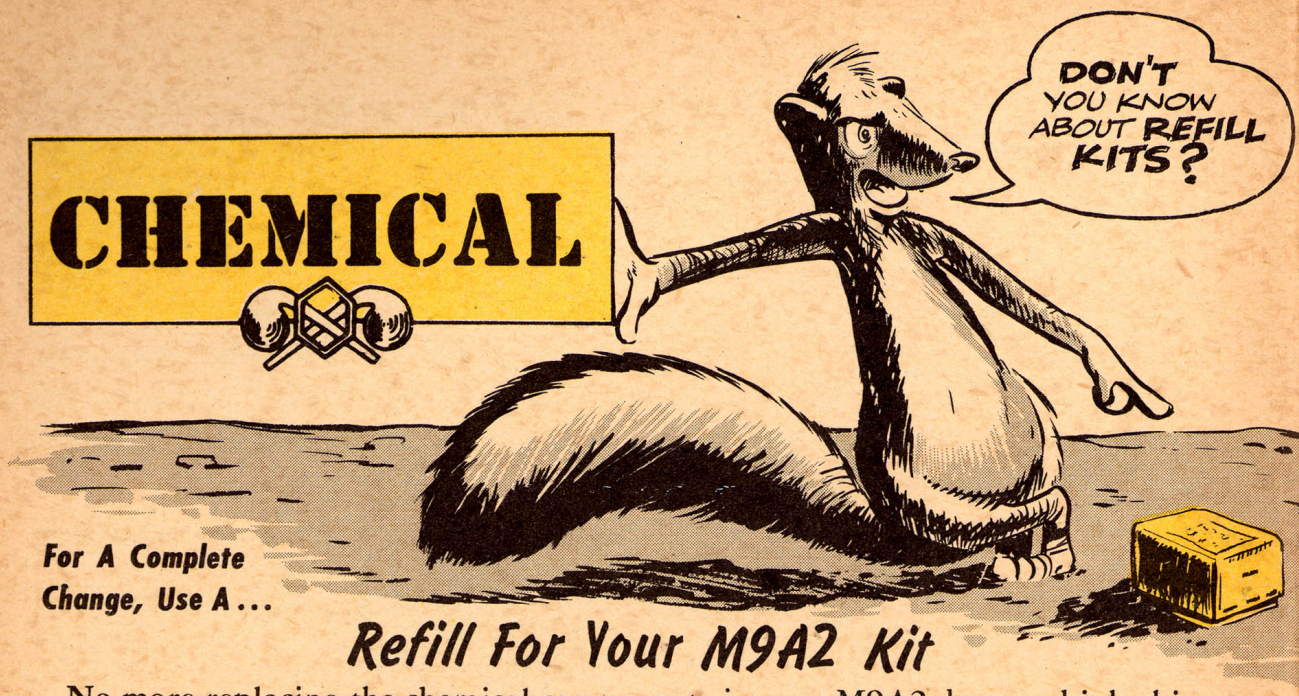
Plate out—remove and service your filter element like it tells you in TM 9-7420 (Jan 55). Just a word of caution: Keep your size 12's off the fan vanes on the top of the fan . . . there's not much clearance between vanes and blades, and anything can happen.



Those bolts are going to get replaced with "quick stud fasteners" one of these days—so watch for 'em.

Half-Mast

CHEMICAL



For A Complete Change, Use A...

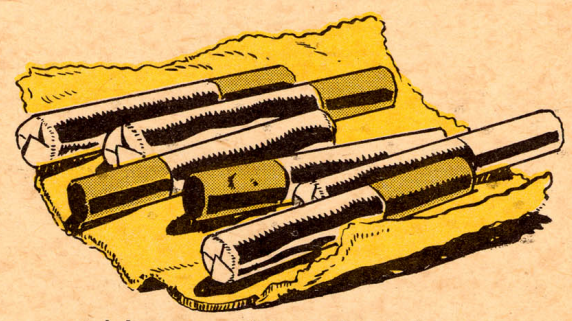
Refill For Your M9A2 Kit

No more replacing the chemical components in your M9A2 detector kit by bits and pieces . . . something real new has been added.

All the chemical components now come packed together as a refill kit and all the components bear the same discard date. Makes it real simple to keep your detector kit in working order at all times.

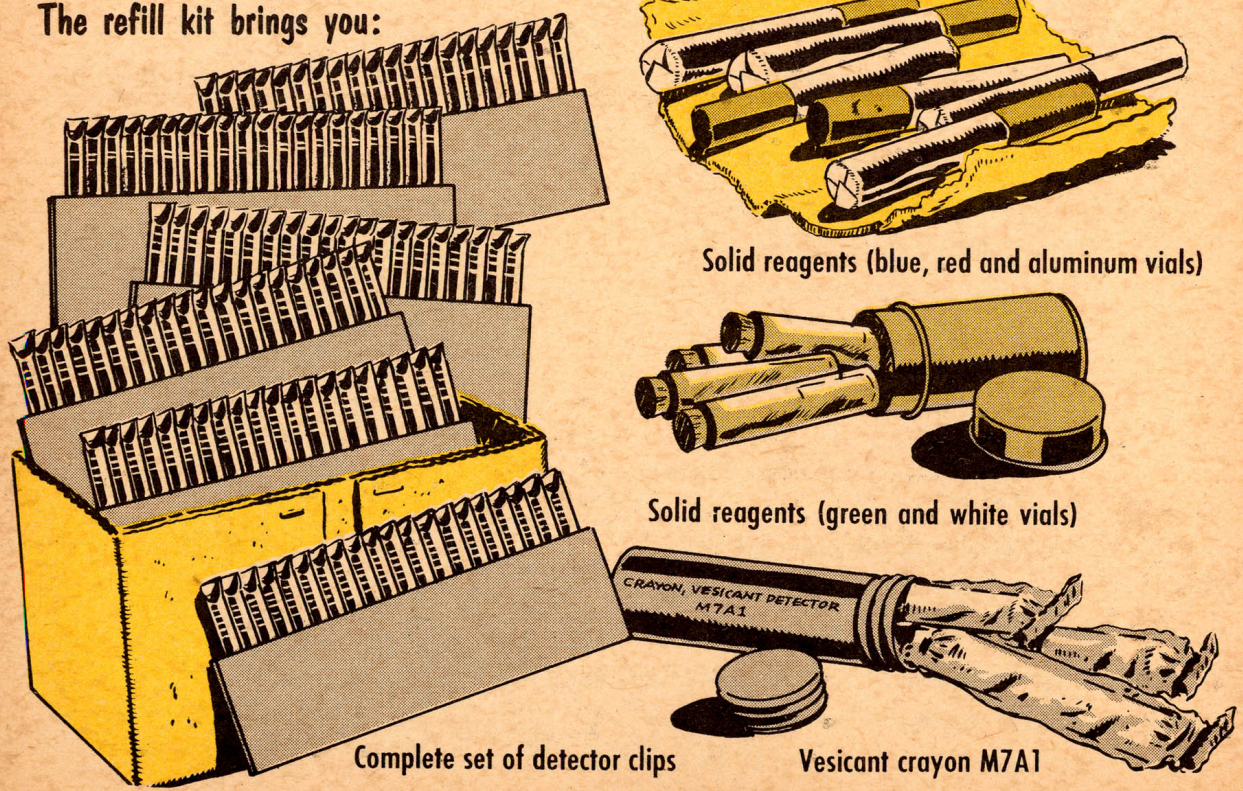
When time comes to freshen up any one of the items in your detector kit, just ask for: Refill Kit, Chemical Agent Detector Kit M9A2, FSN 6665-599-8914, listed in SM 3-4-6665—A12.

The refill kit brings you:



Solid reagents (blue, red and aluminum vials)

Solid reagents (green and white vials)



Complete set of detector clips

Vesicant crayon M7A1

CHEMICAL

For A Complete Change, Use A . . .

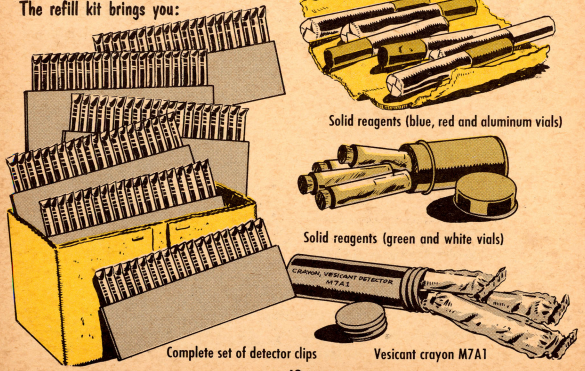
Refill For Your M9A2 Kit

No more replacing the chemical components in your M9A2 detector kit by bits and pieces . . . something real new has been added.

All the chemical components now come packed together as a refill kit and all the components bear the same discard date. Makes it real simple to keep your detector kit in working order at all times.

When time comes to freshen up any one of the items in your detector kit, just ask for: Refill Kit, Chemical Agent Detector Kit M9A2, FSN 6665-599-8914, listed in SM 3-4-6665—A12.

The refill kit brings you:



Solid reagents (blue, red and aluminum vials)

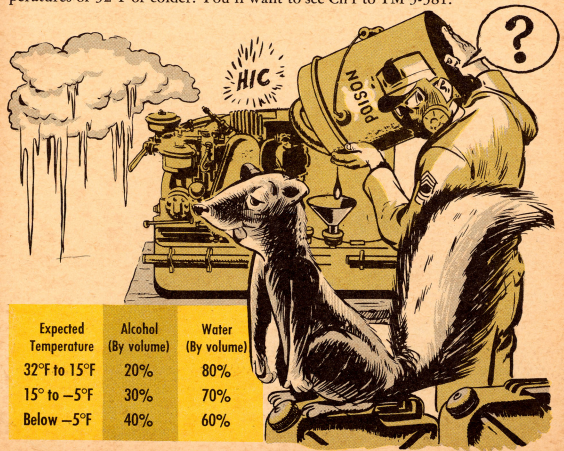
Solid reagents (green and white vials)

Complete set of detector clips

Vesicant crayon M7A1

Hot Dope For Cold Smoke

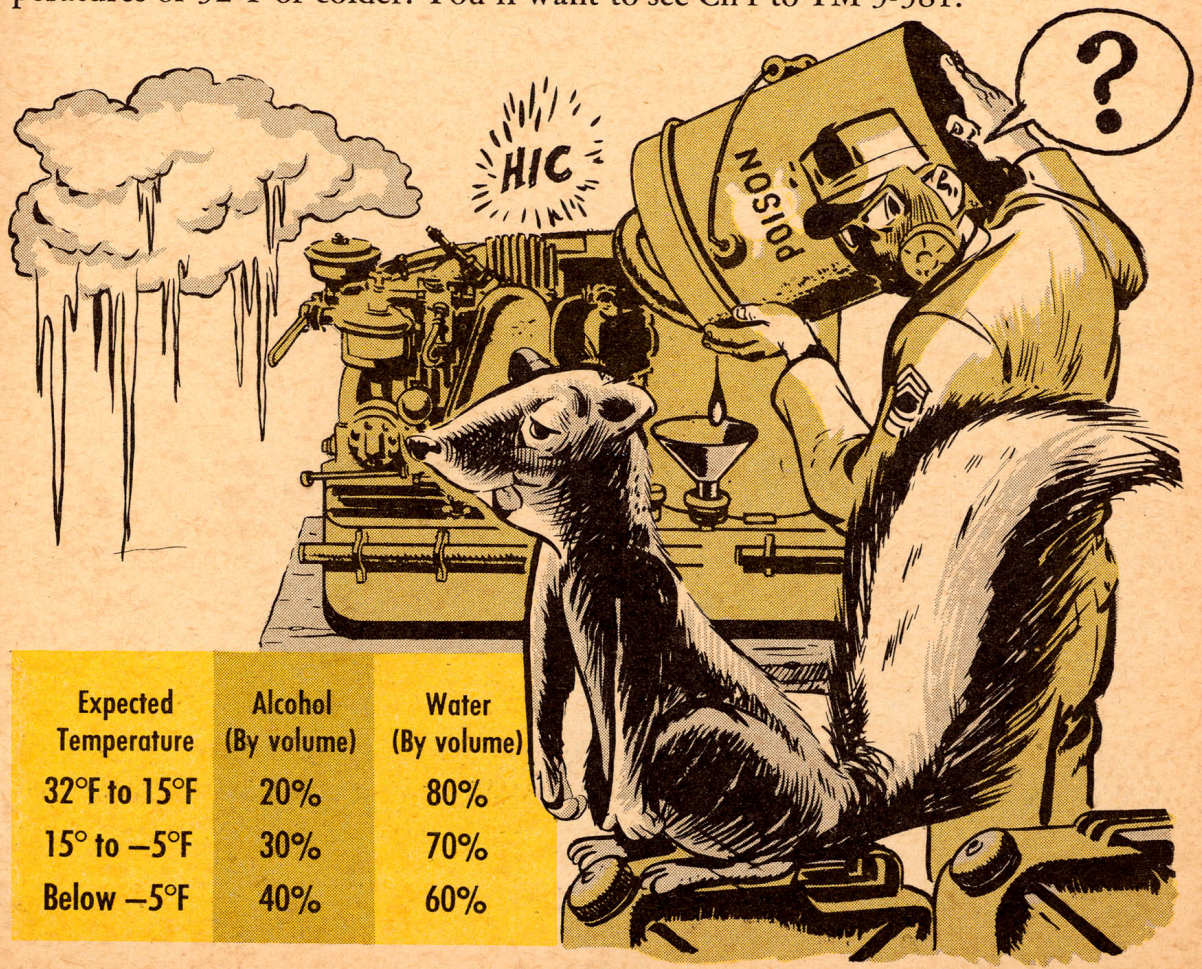
To keep your M2-series mechanical smoke generators from foggin' out on you in cold weather, pour in the denatured alcohol according to the chart below FSN 6810-201-0907 (Chem Stock No. 123633) gets you a five gallon can from the Chemical Corps. TA 3-102 allows you 20 cans per generator for expected temperatures of 32°F or colder. You'll want to see Ch 1 to TM 3-381.



Expected Temperature	Alcohol (By volume)	Water (By volume)
32°F to 15°F	20%	80%
15° to —5°F	30%	70%
Below —5°F	40%	60%

Hot Dope For Cold Smoke

To keep your M2-series mechanical smoke generators from foggin' out on you in cold weather, pour in the denatured alcohol according to the chart below FSN 6810-201-0907 (Chem Stock No. 123633) gets you a five gallon can from the Chemical Corps. TA 3-102 allows you 20 cans per generator for expected temperatures of 32°F or colder. You'll want to see Ch 1 to TM 3-381.



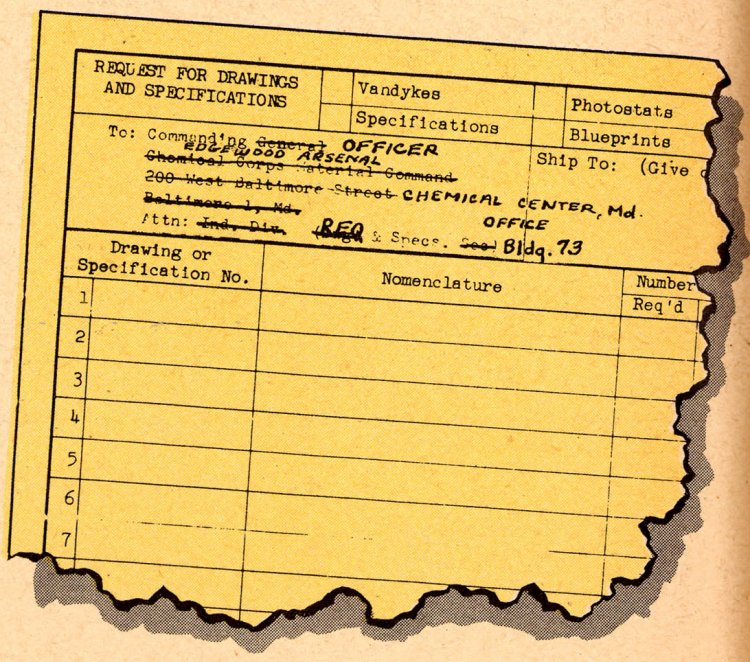
Expected Temperature	Alcohol (By volume)	Water (By volume)
32°F to 15°F	20%	80%
15° to –5°F	30%	70%
Below –5°F	40%	60%

New Address

The new mailing address for Chemical Corps Form 3938 "Request for Drawings and Specifications" is: Commanding Officer, Edgewood Arsenal, Army Chemical Center, Maryland. ATTN: Req & Specs Office, Bldg 73.

Note the change on your copies of the form so they'll not get sent to the old address by mistake.

The form itself is available at the new address.



REQUEST FOR DRAWINGS AND SPECIFICATIONS

Vandykes | Specifications | Photostats | Blueprints

To: Commanding ~~General~~ OFFICER EDGEWOOD ARSENAL ~~Chemical Corps Material Command 200 West Baltimore Street Baltimore 1, Md.~~ CHEMICAL CENTER, Md. OFFICE

Ship To: (Give

Attn: ~~Ind. Div.~~ REQ ~~Engr~~ & Specs. ~~Sec~~ Bldg. 73

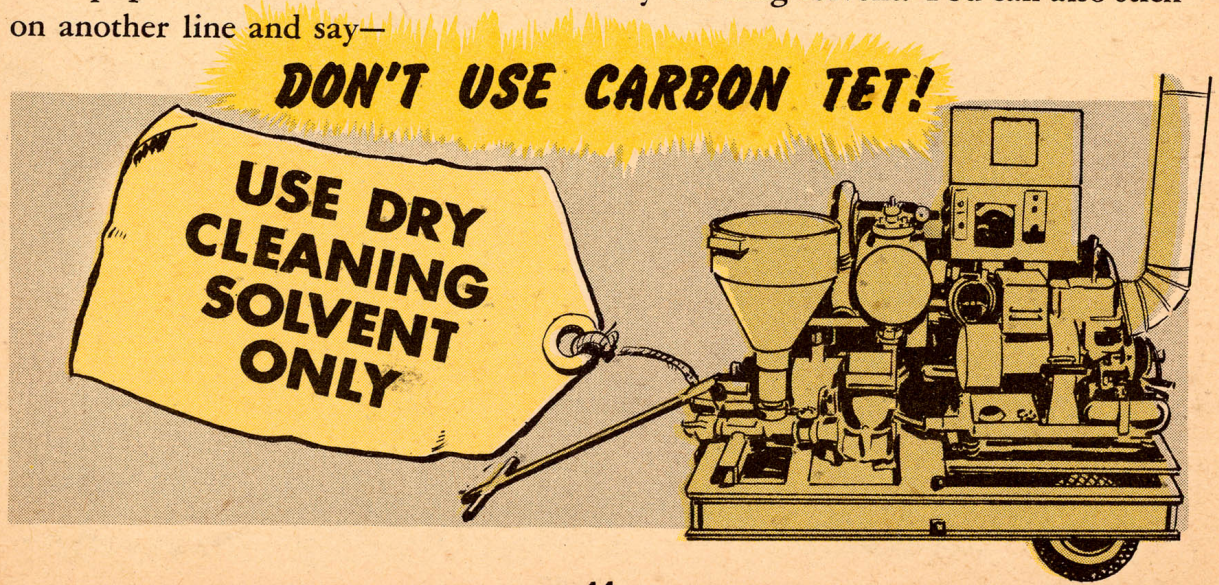
Drawing or Specification No.	Nomenclature	Number Req'd
1		
2		
3		
4		
5		
6		
7		

Give Carbon Tet The Gate

Hope you're using dry cleaning solvent for scrubbin' and flushin' the M3 or M3A1 incendiary oil-mixing and transfer unit. That's the best stuff to use—not carbon tetrachloride.

Carbon tet'll let the guts of your unit rust out in a hurry, because it dissolves the protective oils—and that invites corrosion in the fuel and transfer pumps. When they rust up, you'll be put outa business fast.

Just so's nobody'll use the wrong cleaner for this job, stick a tag on the side of the equipment and tell the world to use dry cleaning solvent. You can also stick on another line and say—



Tip-Off On Hot Stuff

Just like it says in big yellow letters on its side . . . the M15 WP (White Phosphorous) smoke grenade is a **bursting type** grenade.

This babe comes equipped with a high explosive fuze. (Same kind of fuze used in high explosive fragmentation grenades). Its care and handling takes a mite more respect than you give an ordinary **smoke** grenade.

A WP'll put out a thick swirl of smoke all right . . . but it'll also start a fire for you and act unfriendly to folks and things within its range.

CARE OF WP GRENADES

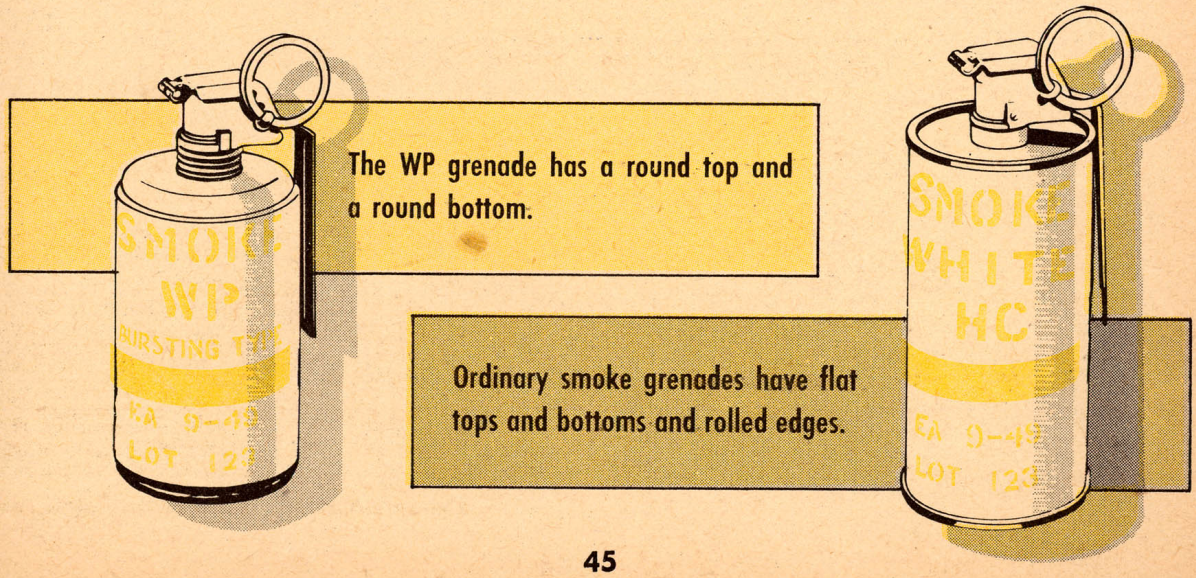
Should you ever catch a WP leaking (on you, in storage or anywhere in close quarters) waste no time dunking it in the nearest bucket of water, or bury it in sand, dirt, mud or what-have-you. WP burns when it's exposed to the air and once a grenade starts leaking, you'll not be safe till it's well smothered.

If you have to get rid of a leaking grenade by tossing it, be sure it lands at least 80 feet from you and everybody else.

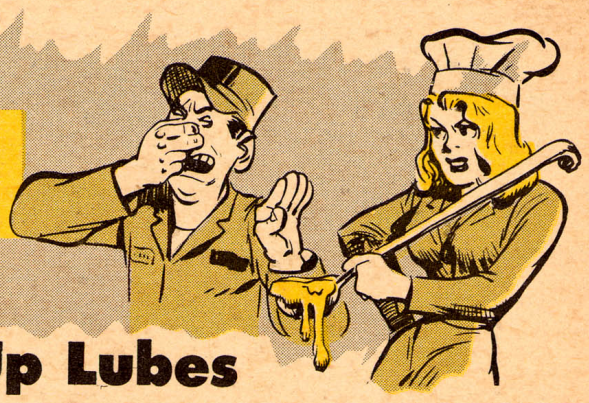
MISTAKEN IDENTITY

The WP grenade is shaped different from an ordinary smoke grenade. Even so, WP's must be kept by themselves so's they'll not get mixed up. Grabbing a WP in place of an ordinary smoke grenade can prove a dangerous mistake.

Bits of WP can burn right thru to the bone . . . so keep it off your clothing and skin. Best first aid for a WP wound is to dunk it in water immediately, or cover it with wet cloth, or copper sulphate solution while the particles are picked or squeezed out.



QUARTERMASTER



Loused-Up Lubes

You guys who dish out lubricants catch all the cuss words when lubes act like strawberry jam. The grease monkeys say they're following the LO's, TM's, and FM's down the line, but gummy guns and sticky machinery are causing overtime work...with no time-and-a-half.

Your answer is that if they're not made right, you can't do anything about lube performance.

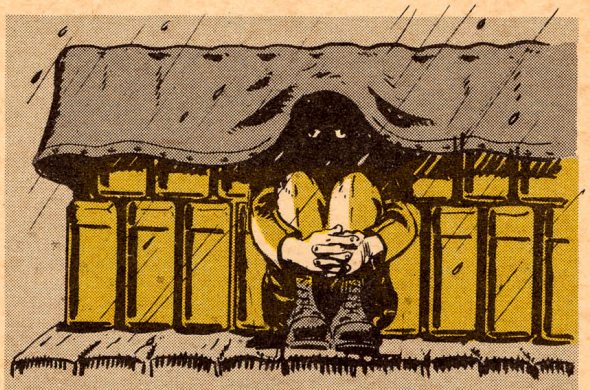
But chances are you **can** do something about it. The foul-up could be caused by the **handling** of the lubes.

You see, in making and delivering lubricants, manufacturers are as careful as a preacher's wife picking a husband for her daughter. So if the guy doing the lubing does everything right and the lube doesn't do its job, better check your handling technique.

A little unnoticed dirt, a drop of moisture, an unseen drum leak in the supply room can cause a vehicle or gun to bog down miles and weeks later.

Check your handling techniques against this list to keep lubes in tip-top shape:

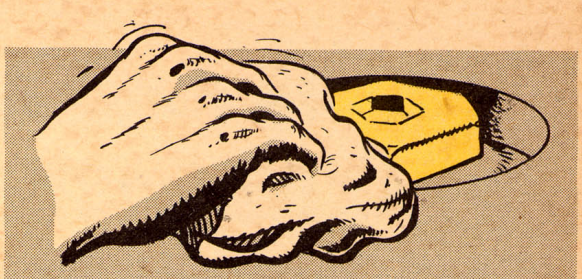
1. UNLOADING. Avoid dropping drums or other containers from trucks—even on a cushion. Seals might split, making leakage or contamination likely. Use drum skids or hoists. Never roll drums over rocks or uneven surfaces.



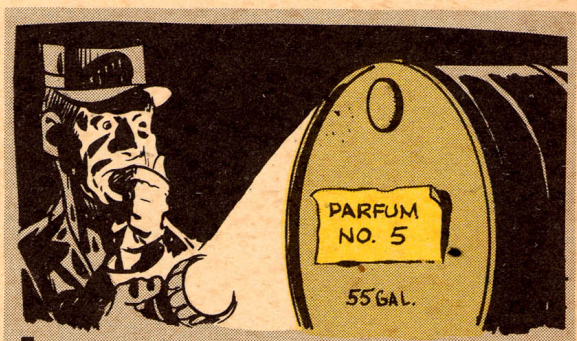
2. STORAGE. Keep container out of the weather if possible. In the field, use a tarpaulin or other protection for 5-gal cans, which are stored vertically. Never store 55-gal drums vertically. Keep containers off surfaces where there's water or seepage. Watch oils stored at real hot or cold temperatures for separation or jelling.

3. CONTAMINATION. This is what makes parts stick instead of slick. Dirt, dust, or other solids shorten the life of oil by stepping up oxidation, and their abrasive qualities can cause serious damage to moving parts. Close all containers wrench-tight, especially partially filled ones where you can get condensation. If there's a leak, change oil to a tight, clean container.

Remember that lubricants with additives go bad quicker than straight mineral oils. F'rinstance, a little water won't permanently damage straight mineral oil, but it could remove an additive partially or completely. If there's any doubt about contamination, arrange for an inspection. You're QM will take care of it.



4. DISPENSING. Wipe all dirt, moisture, or dust from around the opening before unscrewing or removing the plug or cap.



5. CONFUSION. Keep 'em labeled right. All the careful handling in the world won't count if you're using the wrong lube.

Be careful, be clean, inspect often, and your lube preventive maintenance will be on the ball.

Arrest That Arrestor

Using a spark arrestor on your M1941 tent stove? Good deal—if you're burning wood or coal. But if you've converted to liquid fuel, that arrestor has got to go.

It has a nasty habit of trapping the gases from the liquid fuel, and the next thing you know you're all set up for an explosion. A lot of gas gathers in the arrestor and just hangs there, waiting for a chance to explode. So get rid of that arrestor—now.

You don't get as potent a gas from burning wood or coal, so it's OK to use the arrestor with them.

You'll want to see TM 10-725 for dope on this.

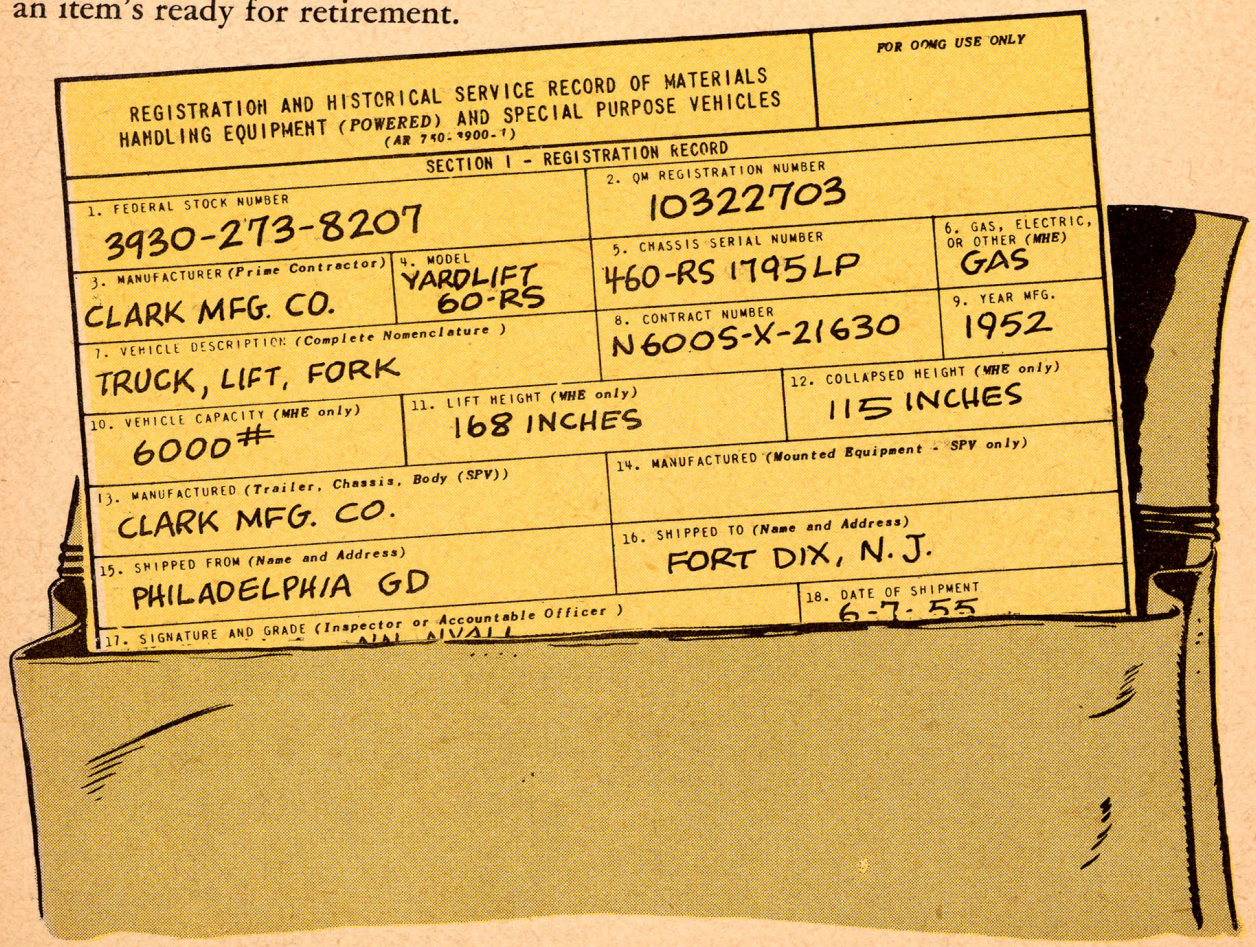
Stash Away DA Form 10-46

Every piece of self-propelled MHE and each special purpose vehicle should come to you with its own copy of DA Form 10-46 (Registration and Historical Service Record) properly filled-in. If the form is AWOL, you better check with your Supply Officer and make a new one. Get it signed by your CO like it says in AR 750-3900-1 (24 Aug 55). The time may come when you'll have to answer for its whereabouts.

Actually the form's got nothing personal to do with you and vice versa—it's kept up by your QM field maintenance outfit. But for convenience, it's gotta stay with the equipment.

All you're concerned with is seeing that it doesn't get lost or misplaced. And the best way you can do that is to keep the form in the equipment's DA 478 Jacket File envelope. That way it won't be overlooked when the equipment goes to field maintenance. It'll also be handy when the inspectors come by.

The form's more or less like your own service record. It's used to clearly identify the equipment when it goes on duty, and then provides a running record of what happens to it. The data the form collects at field maintenance finally decides when an item's ready for retirement.


REGISTRATION AND HISTORICAL SERVICE RECORD OF MATERIALS HANDLING EQUIPMENT (POWERED) AND SPECIAL PURPOSE VEHICLES (AR 750-3900-1)

FOR OCMG USE ONLY

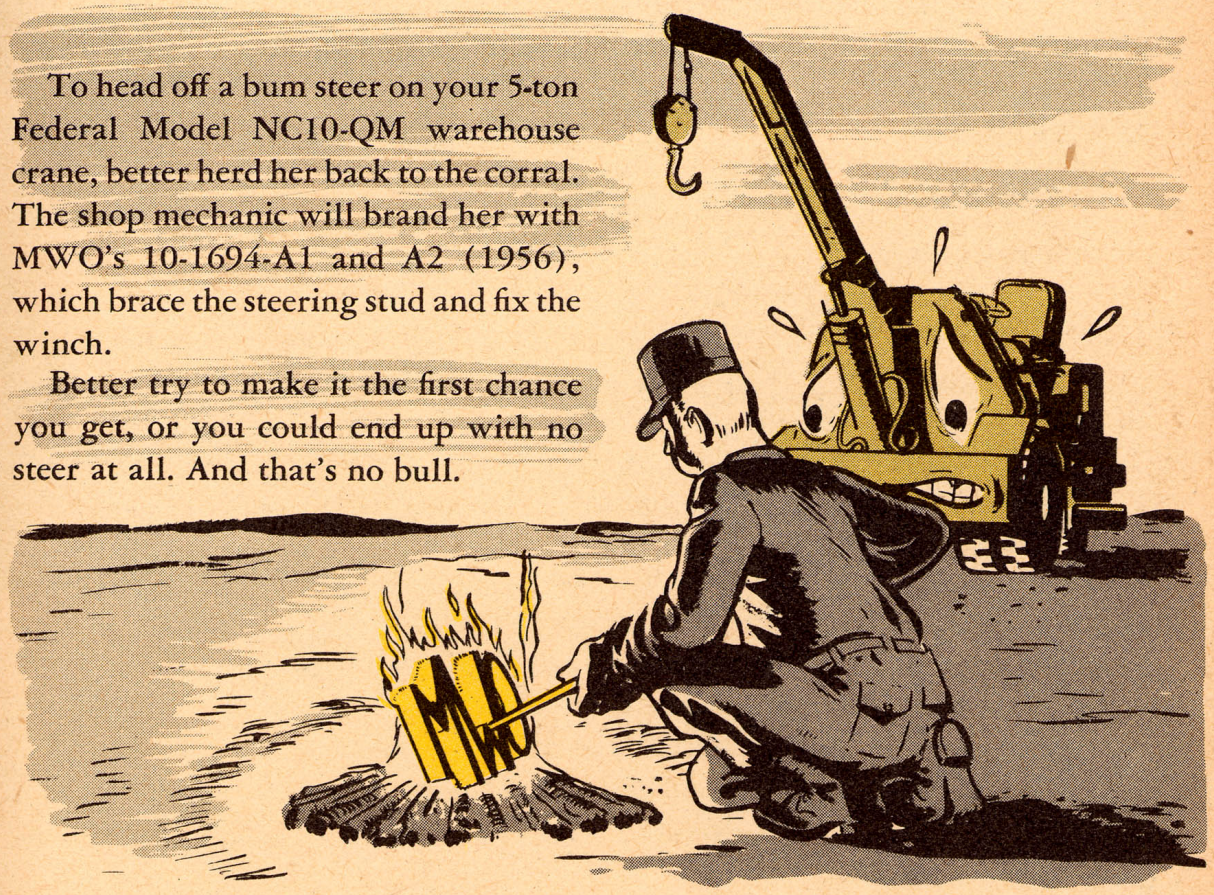
SECTION I - REGISTRATION RECORD

1. FEDERAL STOCK NUMBER: 3930-273-8207
2. QM REGISTRATION NUMBER: 10322703
3. MANUFACTURER (Prime Contractor): CLARK MFG. CO.
4. MODEL: YARDLIFT 60-RS
5. CHASSIS SERIAL NUMBER: 460-RS 1795LP
6. GAS, ELECTRIC, OR OTHER (MHE): GAS
7. VEHICLE DESCRIPTION (Complete Nomenclature): TRUCK, LIFT, FORK
8. CONTRACT NUMBER: N600S-X-21630
9. YEAR MFG.: 1952
10. VEHICLE CAPACITY (MHE only): 6000#
11. LIFT HEIGHT (MHE only): 168 INCHES
12. COLLAPSED HEIGHT (MHE only): 115 INCHES
13. MANUFACTURED (Trailer, Chassis, Body (SPV)): CLARK MFG. CO.
14. MANUFACTURED (Mounted Equipment - SPV only)
15. SHIPPED FROM (Name and Address): PHILADELPHIA GD
16. SHIPPED TO (Name and Address): FORT DIX, N.J.
17. SIGNATURE AND GRADE (Inspector or Accountable Officer): ALAL AIVALL
18. DATE OF SHIPMENT: 6-7-55

For A Bum Steer

To head off a bum steer on your 5-ton Federal Model NC10-QM warehouse crane, better herd her back to the corral. The shop mechanic will brand her with MWO's 10-1694-A1 and A2 (1956), which brace the steering stud and fix the winch.

Better try to make it the first chance you get, or you could end up with no steer at all. And that's no bull.



Check A Line

Some Quartermaster laundry units have found that after a road march the fuel lines have worked loose from vibration. Some fires have resulted from lighting up these units before checking the lines for tightness.

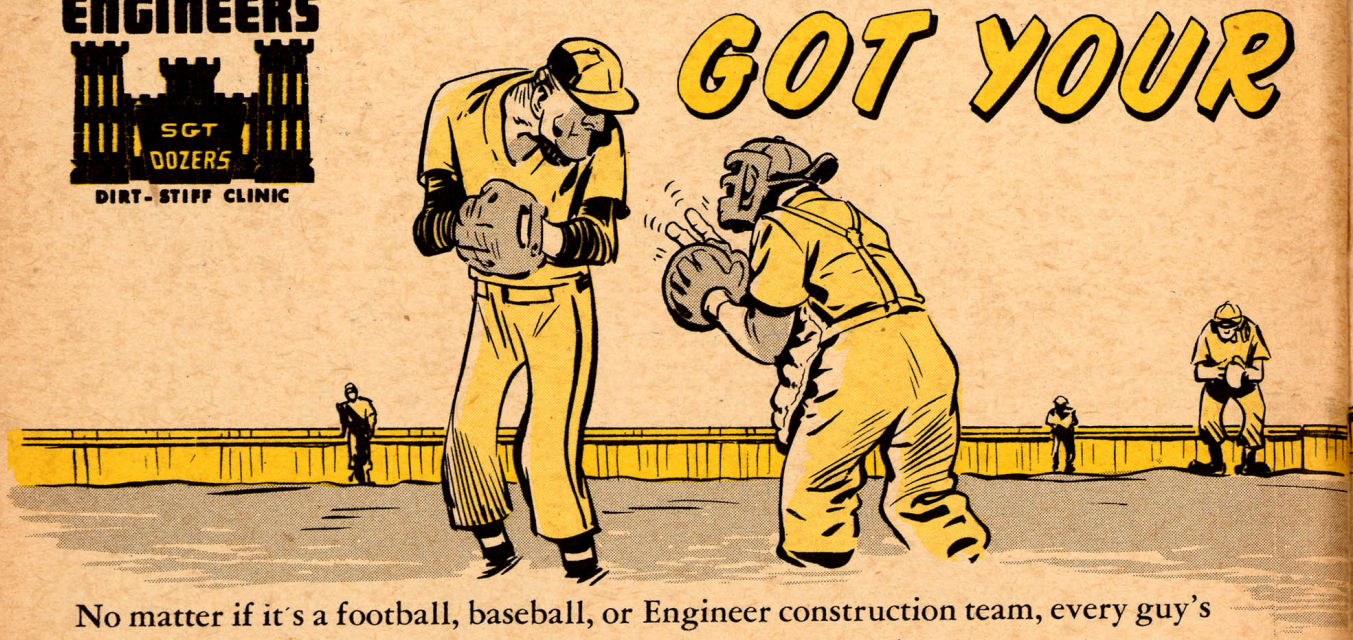
Any time you go into position after a road march, be sure to make a "Before Operation Inspection" as specified in your TM before you light up. Take a close look at all fuel line connections and clean up where fuel may have leaked during road march.

ENGINEERS

SGT DOZER'S

DIRT-STIFF CLINIC

GOT YOUR



No matter if it's a football, baseball, or Engineer construction team, every guy's gotta have his signals straight or the team can't do its job.

F'rinstance, a scraper operator getting ready to work an area may have ground stakes to guide him. But with or without 'em, he needs a ground guide for faster, better operation. The ground guide's the team quarterback.

Before an operation, the operator and ground guide (crew chief) get together and figure the job out. There's more team-work when the guide gives hand signals during operation.

Here're some of the most important hand signals you'll use often. If everybody learns 'em, and everybody uses 'em, everybody will have things easier.

1. Toss a rock or clump of dirt where you want the blade dropped.

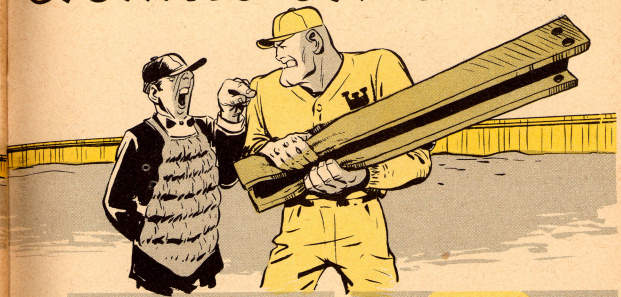
2. To signal the depth of the cut for each pass, raise one finger of the right hand for each tenth of a foot. The left hand hangs open at your side. So, if you want the operator to make a pass and cut three-tenths of a foot, raise three fingers of your right hand and let the left hand hang open.

ENGINEERS

SGT DOZERS

DIRT-STIFF CLINIC

GOT YOUR SIGNALS STRAIGHT?



No matter if it's a football, baseball, or Engineer construction team, every guy's gotta have his signals straight or the team can't do its job.

F'rinstance, a scraper operator getting ready to work an area may have ground stakes to guide him. But with or without 'em, he needs a ground guide for faster, better operation. The ground guide's the team quarterback.

Before an operation, the operator and ground guide (crew chief) get together and figure the job out. There's more team-work when the guide gives hand signals during operation.

Here're some of the most important hand signals you'll use often. If everybody learns 'em, and everybody uses 'em, everybody will have things easier.

1. Toss a rock or clump of dirt where you want the blade dropped.

2. To signal the depth of the cut for each pass, raise one finger of the right hand for each tenth of a foot. The left hand hangs open at your side. So, if you want the operator to make a pass and cut three-tenths of a foot, raise three fingers of your right hand and let the left hand hang open.

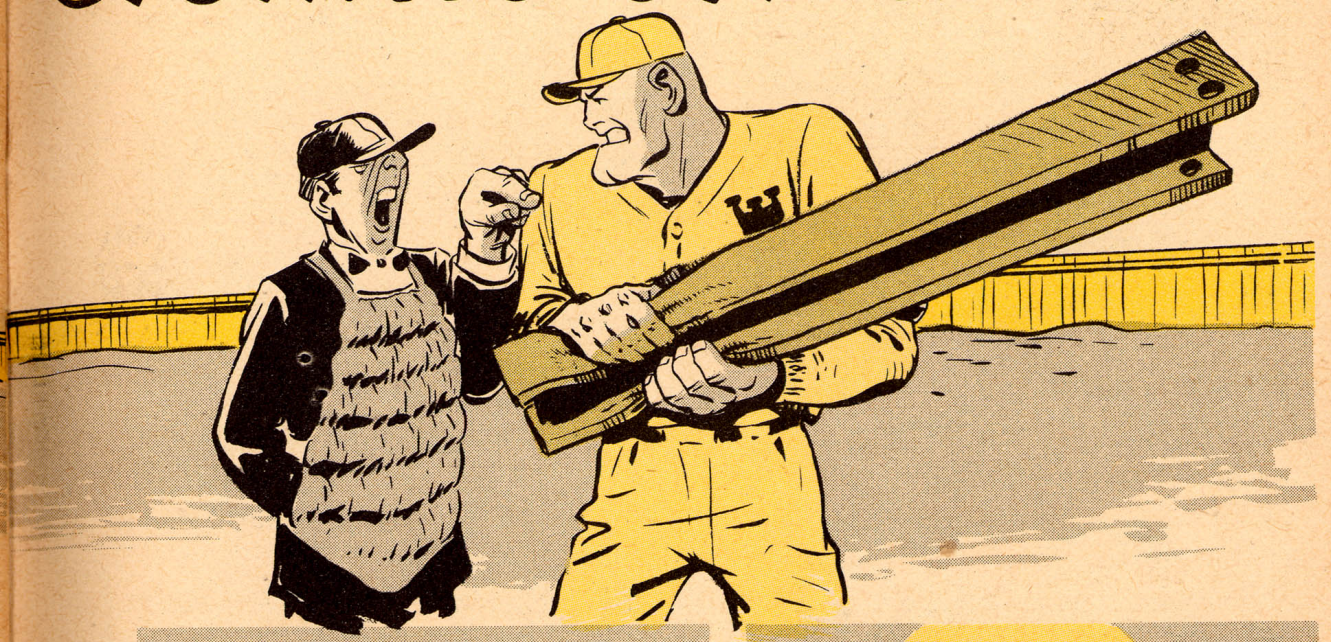
3. The operator also has to know what the total cut's to be after a series of passes. Let him know by signaling the number of feet with your left hand and pointing to your right foot with your right hand. When you raise three fingers of your left hand and point to your right foot with your right hand, you're telling the operator that there are still three more feet to grade in that area.

The same signals work on a filling operation. Pic 1 would show where the fill is to begin. Pic 2 would signal the depth of the spread per pass. Pic 3 would show the depth of the fill yet to be done.

4. When you want an area smoothed up, rub the palms of your hands together in a circular motion with the right hand on top.

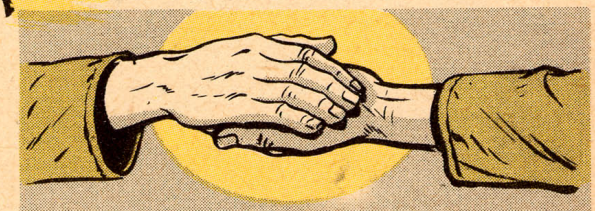
5. To speed up an operator, give the old double-time signal.

SIGNALS STRAIGHT?



3. The operator also has to know what the total cut's to be after a series of passes. Let him know by signaling the number of feet with your left hand and pointing to your right foot with your right hand. When you raise three fingers of your left hand and point to your right foot with your right hand, you're telling the operator that there are still three more feet to grade in that area.

The same signals work on a filling operation. Pic 1 would show where the fill is to begin. Pic 2 would signal the depth of the spread per pass. Pic 3 would show the depth of the fill yet to be done.

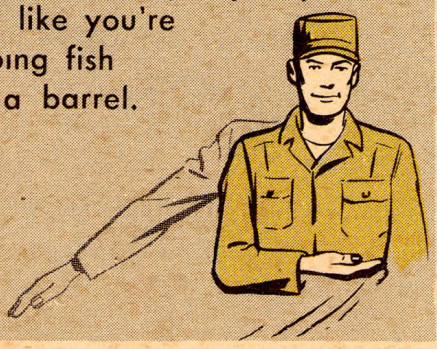


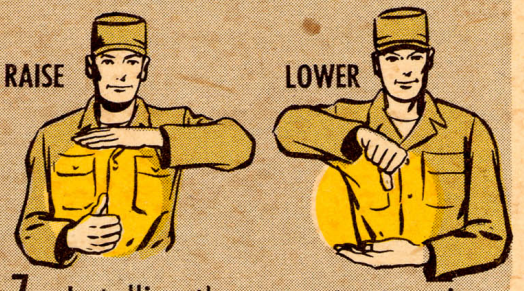
4. When you want an area smoothed up, rub the palms of your hands together in a circular motion with the right hand on top.

5. To speed up an operator, give the old double-time signal.

6. Stopping. For a routine halt or stop, do this.

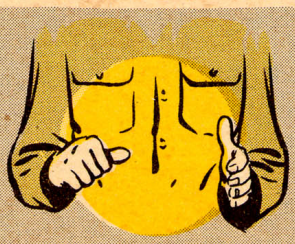
For an emergency stop, make like you're scooping fish from a barrel.





7. In telling the operator to raise or lower the blade, act like you're drilling a hole in the left hand with your right thumb. Left hand up means raise blade; left hand down means lower.

8. To move the blade to the left, stick your left thumb toward your right hand.



9. Move her to the right by pointing your right thumb toward your left hand.

10. Move the machine toward you by giving the come-on like this. Make him come easy by moving your hand slowly.

When he's at the right place, use the stop sign.

11. You've got him stopped. To show that all rolling motion of the machine should be stopped and the brakes held, clench both fists overhead . . . like a football referee signaling a touchdown.

12. Cut the engine by running your hand back and forth across your throat.

13. Here's one for the operator: He shows he understands his quarterback's signal by giving him a casual salute. Nothing gung-ho or real snappy—just a wave.

FM 21-60 with Ch1 tells you how important signals are:

"Signals may produce disaster if not given correctly and distinctly or if improperly interpreted."

Memorize the signals. You should know 'em as well as your serial number.

Dear Sgt Dozer,

A statement of charges here brought up that old soldier's law again: If you're not a regularly assigned operator on a piece of equipment, **leave it alone.**

One of our D7 skinners parked his Cat, put on the brake, and put the clamp over on the right hand steering brake to hold it. Exactly as he should.

Then some green operator got up on the machine and drove off—without noticing that brake. Never know how he managed to do it, but he did. Drove that Cat around for about an hour with the brake locked.

Now he's paying for a steering clutch and steering brake. It's a real kick in the wallet for him.

He learned it the tough way, but now he knows that if you're not assigned to a piece of machinery, **leave it alone.**

Sgt R. J. A.

FIXUM DD110, KEMO SABE!

Sure, the guy says, I know the DD Form 110 (trip ticket) is the only way to keep daily preventive maintenance up to date on stationary Engineer equipment.

Sure, he says, every time we use a skid-mounted generator or compressor a DD 110 goes with it, and gets filled out according to SOP. We cross out the stuff that doesn't apply, like brakes and steering, and make all those check marks. So we're keeping up our daily maintenance, right?

Wrong . . . or at least only partly right. Since the trip ticket is the only **daily** written record of daily maintenance on stationary equipment, it's got to have more changes than crossing out things that don't apply.

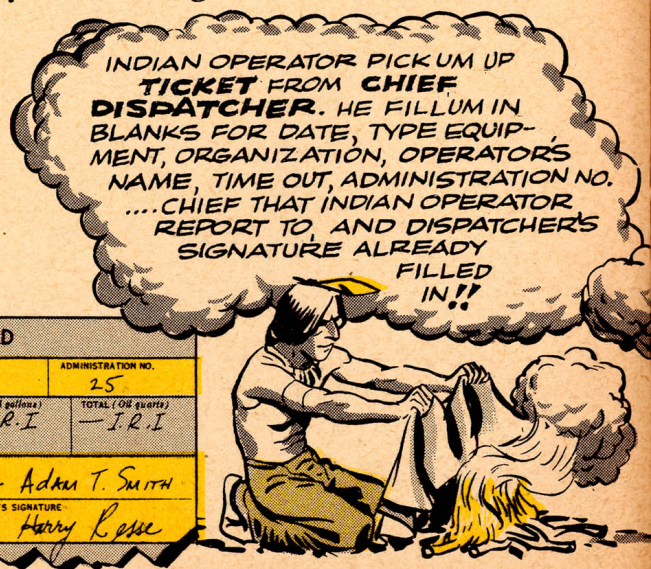
YOU ALSO ADD ALL ITEMS FROM THE DAILY MAINTENANCE SECTION IN THE TB OR TM THAT ARE NOT ON THE TRIP TICKET.

Write the items in the open spaces in the PREVENTIVE MAINTENANCE SERVICES section in whatever columns apply—BEFORE, DURING, AFTER.

Most of the time, you'll have enough space on the trip ticket to add the additional maintenance duties. (There're six blank spaces under BEFORE, seven under DURING, and three under AFTER.) On the Hobart generator for instance, the additional duties fit.

So you're using equipment that has so many daily services they won't fit on the 110? Answer's easy. Mimeograph those daily services right out of the TB or TM and staple the list to the trip ticket. Takes a little extra to cut that stencil, but remember . . . this is the only written record you have of daily preventive maintenance services.

Supposin' we take the Hobart generator as an example in filling out the 110.



VEHICLE AND EQUIPMENT OPERATIONAL RECORD

DATE	TYPE	REGISTRATION NO.	ADMINISTRATION NO.
5 October 1956	HOBART GENERATOR, MODEL HF-30G	HF-30G-33	25

DISPATCHING ORGANIZATION	DAILY	DURING OPER.	AFTER OPER.	ACTION	TIME	OPERATING HOURS	TOTAL (Fuel gallons)	TOTAL (Oil quarts)
99TH ENG. BN.							1-I.R.I	—I.R.I
1ST OPERATOR: SP2 John R. Jones				IN	1700	—	REPORT TO: M/Sgt Adam T. Smith	
OPERATOR'S SIGNATURE: John R. Jones				OUT	0700	—	DISPATCHER'S SIGNATURE: M/Sgt Harry Lesse	
2D OPERATOR				TOTAL	10	2		

FIXUM DD 110, KEMO SABE!

Sure, the guy says, I know the DD Form 110 (trip ticket) is the only way to keep daily preventive maintenance up to date on stationary Engineer equipment.

Sure, he says, every time we use a skid-mounted generator or compressor a DD 110 goes with it, and gets filled out according to SOP. We cross out the stuff that doesn't apply, like brakes and steering, and make all those check marks. So we're keeping up our daily maintenance, right?

Wrong . . . or at least only partly right. Since the trip ticket is the only **daily** written record of daily maintenance on stationary equipment, it's got to have more changes than crossing out things that don't apply.

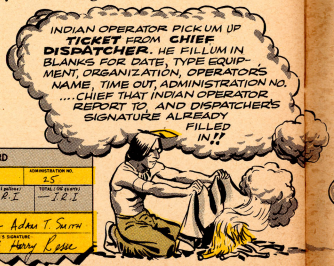
YOU ALSO ADD ALL ITEMS FROM THE DAILY MAINTENANCE SECTION IN THE TB OR TM THAT ARE NOT ON THE TRIP TICKET.

Write the items in the open spaces in the PREVENTIVE MAINTENANCE SERVICES section in whatever columns apply—BEFORE, DURING, AFTER.

Most of the time, you'll have enough space on the trip ticket to add the additional maintenance duties. (There're six blank spaces under BEFORE, seven under DURING, and three under AFTER.) On the Hobart generator for instance, the additional duties fit.

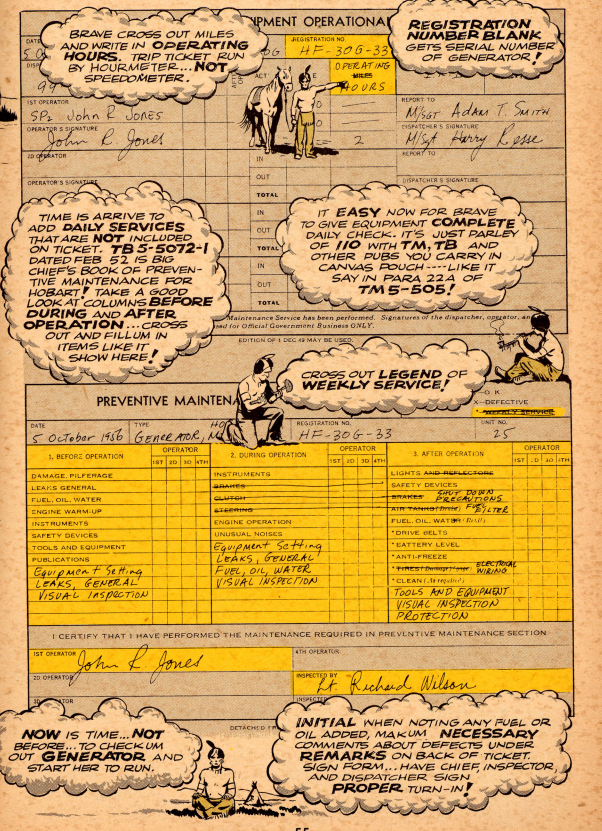
So you're using equipment that has so many daily services they won't fit on the 110? Answer's easy. Mimeograph those daily services right out of the TB or TM and staple the list to the trip ticket. Takes a little extra to cut that stencil, but remember . . . this is the only written record you have of daily preventive maintenance services.

Supposin' we take the Hobart generator as an example in filling out the 110.



VEHICLE AND EQUIPMENT OPERATIONAL RECORD

DATE: 5 October 1956	TYPE: GENERATOR, MODEL HF-30G				REGISTRATION NO.: HF-30G-33		ADM REGISTRATION NO.: 25	
DISPATCHING DESIGNATION: 99TH ENG BN					OPERATING HOURS	TOTAL (Past action) 1-IRI	TOTAL (This action) -IRI	
	CHECK	BRAKES	STEER GEAR	ACTION	TIME			
1ST OPERATOR: SP4 John R JONES				IN	1740	REPORT TO: M/Sgt Adam T SMITH		
OPERATOR'S SIGNATURE: John R Jones				OUT	0700	DISPATCHER'S SIGNATURE: M/Sgt Harry Losse		
2D OPERATOR				TOTAL	10	2		



PREVENTIVE MAINTENANCE

DATE: 5 October 1956	TYPE: GENERATOR, HF				REGISTRATION NO.: HF-30G-33		UNIT NO.: 25	
1. BEFORE OPERATION	OPERATOR 1ST	2D	3D	4TH	2. DURING OPERATION	OPERATOR 1ST	2D	3D	4TH	3. AFTER OPERATION	OPERATOR 1ST	2D	3D	4TH
DAMAGE, PILFERAGE					INSTRUMENTS					LIGHTS AND REFLECTORS				
LEAKS GENERAL					BRAKES					SAFETY DEVICES				
FUEL, OIL, WATER					CLUTCH					BRAKES FIRST DRAW PRECAUTIONS				
ENGINE WARM-UP					STEERING					AIR TANK(S) (Drain) FUEL FILTER				
INSTRUMENTS					ENGINE OPERATION					FUEL, OIL, WATER (Add)				
SAFETY DEVICES					UNUSUAL NOISES					* DRIVE BELTS				
TOOLS AND EQUIPMENT					Equipment Setting					* BATTERY LEVEL				
PUBLICATIONS					LEAKS, GENERAL					* ANTI-FREEZE				
Equipment Setting					FUEL, OIL, WATER					* FIRST (Daily) TIME ELECTRICAL WIRING				
LEAKS, GENERAL					VISUAL INSPECTION					* CLEAN (As required)				
VISUAL INSPECTION										TOOLS AND EQUIPMENT				
										VISUAL INSPECTION				
										PROTECTION				

I CERTIFY THAT I HAVE PERFORMED THE MAINTENANCE REQUIRED IN PREVENTIVE MAINTENANCE SECTION

1ST OPERATOR: John R Jones — 4TH OPERATOR:

2D OPERATOR: — INSPECTED BY: Lt Richard Wilson

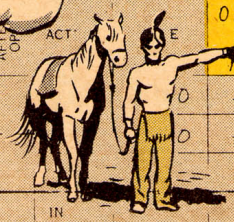
3D OPERATOR: — INSPECTOR:

BRAVE CROSS OUT MILES AND WRITE IN **OPERATING HOURS.** TRIP TICKET RUN BY HOURMETER... **NOT** SPEEDOMETER.

REGISTRATION NUMBER BLANK GETS SERIAL NUMBER OF GENERATOR!

...IPMENT OPERATIONAL

DATE 5 O...	REGISTRATION NO. HF-30G-33		
DISP... 99	ACT...	OPERATING ~~MILES~~ HOURS	
1ST OPERATOR SP2 John R. Jones			REPORT TO M/SGT Adam T. Smith
OPERATOR'S SIGNATURE John R. Jones			DISPATCHER'S SIGNATURE M/Sgt Harry Resse
2D OPERATOR	IN		REPORT TO
OPERATOR'S SIGNATURE	OUT		DISPATCHER'S SIGNATURE
	TOTAL		
	IN		
	OUT		
	TOTAL		
	IN		
	OUT		
	TOTAL		



TIME IS ARRIVE TO ADD **DAILY SERVICES** THAT ARE **NOT** INCLUDED ON TICKET. **TB 5-5072-1** DATED FEB 52 IS BIG CHIEF'S BOOK OF PREVENTIVE MAINTENANCE FOR HOBART! TAKE A GOOD LOOK AT COLUMNS **BEFORE DURING** AND **AFTER OPERATION**... CROSS OUT AND FILLUM IN ITEMS LIKE IT SHOW HERE!

IT **EASY** NOW FOR BRAVE TO GIVE EQUIPMENT **COMPLETE** DAILY CHECK. IT'S JUST PARLEY OF **110** WITH **TM, TB** AND OTHER PUBS YOU CARRY IN CANVAS POUCH----LIKE IT SAY IN PARA 22A OF **TM 5-505!**

...Maintenance Service has been performed. Signatures of the dispatcher, operator, an... ...sed for Official Government Business ONLY.

EDITION OF 1 DEC 49 MAY BE USED.

CROSS OUT **LEGEND** OF **WEEKLY SERVICE!**

PREVENTIVE MAINTENA...

...O.K.
X—DEFECTIVE
~~• WEEKLY SERVICE~~

DATE	TYPE	REGISTRATION NO.	UNIT NO.
5 October 1956	GENERATOR, M... HO...	HF-30G-33	25

1. BEFORE OPERATION	OPERATOR 1ST	2D	3D	4TH	2. DURING OPERATION	OPERATOR 1ST	2D	3D	4TH	3. AFTER OPERATION	OPERATOR 1ST	2D	3D	4TH
DAMAGE, PILFERAGE					INSTRUMENTS					LIGHTS ~~AND REFLECTORS~~				
LEAKS GENERAL					~~BRAKES~~					SAFETY DEVICES				
FUEL, OIL, WATER					~~CLUTCH~~					~~BRAKES~~ SHUT DOWN PRECAUTIONS				
ENGINE WARM-UP					~~STEERING~~					~~AIR TANKS (Drain)~~ FUEL FILTER				
INSTRUMENTS					ENGINE OPERATION					FUEL, OIL, WATER (Refill)				
SAFETY DEVICES					UNUSUAL NOISES					• DRIVE BELTS				
TOOLS AND EQUIPMENT					Equipment Setting					• BATTERY LEVEL				
PUBLICATIONS					LEAKS, GENERAL					• ANTI-FREEZE				
Equipment Setting					FUEL, OIL, WATER					• ~~TIRES (Damage) (gage)~~ ELECTRICAL WIRING				
LEAKS, GENERAL					VISUAL INSPECTION					• CLEAN (As required)				
VISUAL INSPECTION										TOOLS AND EQUIPMENT				
										VISUAL INSPECTION				
										PROTECTION				

I CERTIFY THAT I HAVE PERFORMED THE MAINTENANCE REQUIRED IN PREVENTIVE MAINTENANCE SECTION

1ST OPERATOR John R. Jones	4TH OPERATOR
2D OPERATOR	INSPECTED BY Lt. Richard Wilson
3D ...ATOR	INSPECTED

DETACHED FR...

NOW IS TIME... **NOT** BEFORE... TO CHECK UM OUT **GENERATOR** AND START HER TO RUN.

INITIAL WHEN NOTING ANY FUEL OR OIL ADDED, MAKUM **NECESSARY** COMMENTS ABOUT DEFECTS UNDER **REMARKS** ON BACK OF TICKET. SIGN FORM... HAVE CHIEF, INSPECTOR, AND DISPATCHER SIGN **PROPER** TURN-IN!

BEWARE THOSE

Cable on heavy equipment is like money in a poker game. It's expendable, and it'll go sooner or later. But a smart operator makes it last as long as it should.

Which means that good preventive maintenance will let cable outlive what the boys upstairs call its life expectancy. To deal it another way, any good operator knows that cable breakage and down time are chopped short by correct operation and daily inspection.

First place to look for trouble is at the drum. Naturally, 'cause all that overlapping and wiping action happens when the cable wraps.

That wiping action causes the cable to fray—and fraying and kinks are cable killers.

Fraying is usually caused by a bent or misalined sheave . . . or a sheave or ejector roller that's binding or not turning freely. Lube those sheaves and rollers. That'll stop the cable from sliding —and fraying—on the sheave.

Kinking is caused by bad operation of the cable control. Mostly, that's the result of faulty adjustment of your cable control clutch and brake . . . allows excess cable to unwind from the drum. If yours is doing that, check the TM and get the right adjustment.

BEWARE THOSE CABLE KILLERS

Cable on heavy equipment is like money in a poker game. It's expendable, and it'll go sooner or later. But a smart operator makes it last as long as it should.

Which means that good preventive maintenance will let cable outlive what the boys upstairs call its life expectancy. To deal it another way, any good operator knows that cable breakage and down time are chopped short by correct operation and daily inspection.

First place to look for trouble is at the drum. Naturally, 'cause all that overlapping and wiping action happens when the cable wraps.

That wiping action causes the cable to fray—and fraying and kinks are cable killers.

Fraying is usually caused by a bent or misalined sheave . . . or a sheave or ejector roller that's binding or not turning freely. Lube those sheaves and rollers. That'll stop the cable from sliding —and fraying—on the sheave.

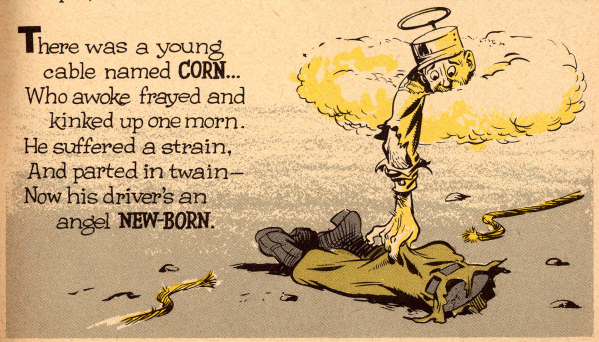
Kinking is caused by bad operation of the cable control. Mostly, that's the result of faulty adjustment of your cable control clutch and brake . . . allows excess cable to unwind from the drum. If yours is doing that, check the TM and get the right adjustment.

It's obvious as a shoeshine on payday that you've gotta have the right size cable. It's too small, and it could snap. Too big, and it's tough on your equipment.

Your 8-hr operation checks will tell you when the cable that reels around the drum most is gone. Then's the time to cut off the worn-out part, pull in the same amount from the spare reel, and hook her up again. Natch, always be sure the cable's strung properly.

Just how dangerous a frayed, kinked, wrong-sized, or improperly strung cable can be is told in a limerick by that famous poet, K. Able Kare.

There was a young
cable named **CORN**...
Who awoke frayed and
kinked up one morn.
He suffered a strain,
And parted in twain—
Now his driver's an
angel **NEW-BORN**.

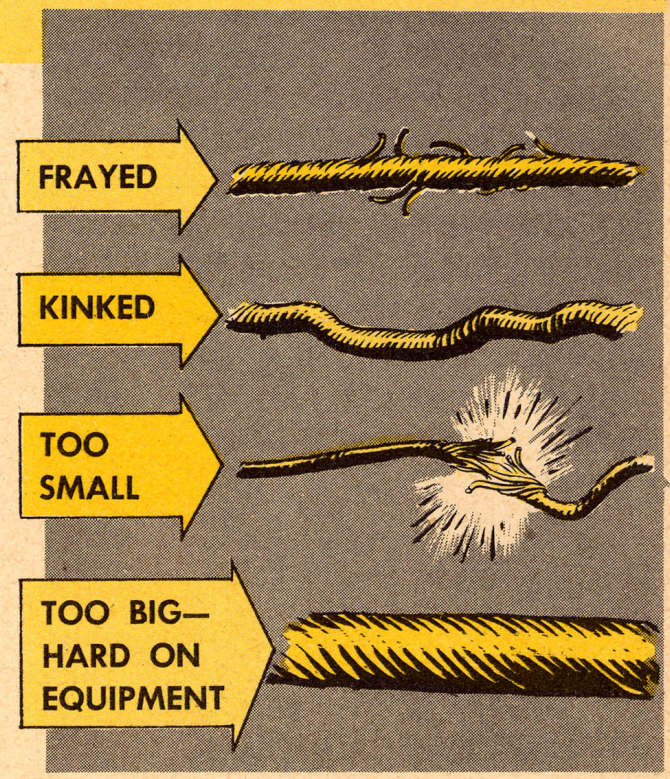


CABLE KILLERS

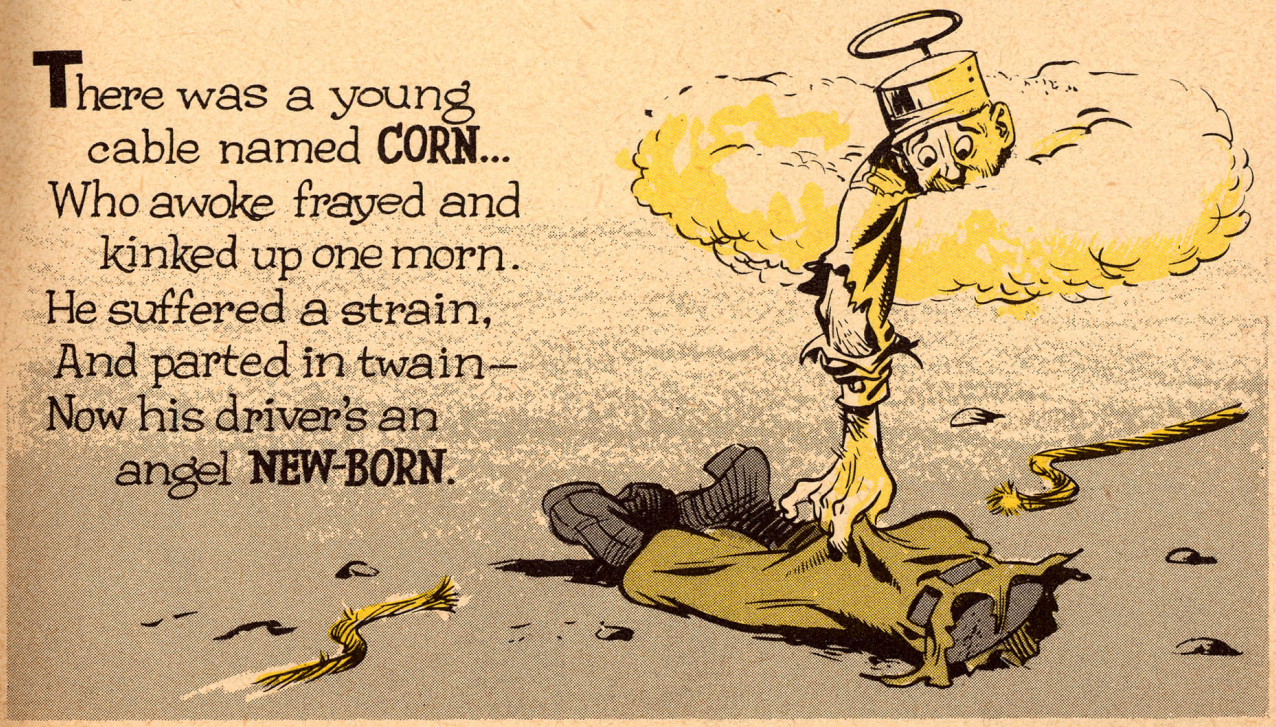
It's obvious as a shoeshine on payday that you've gotta have the right size cable. It's too small, and it could snap. Too big, and it's tough on your equipment.

Your 8-hr operation checks will tell you when the cable that reels around the drum most is gone. Then's the time to cut off the worn-out part, pull in the same amount from the spare reel, and hook her up again. Natch, always be sure the cable's strung properly.

Just how dangerous a frayed, kinked, wrong-sized, or improperly strung cable can be is told in a limerick by that famous poet, K. Able Kare.

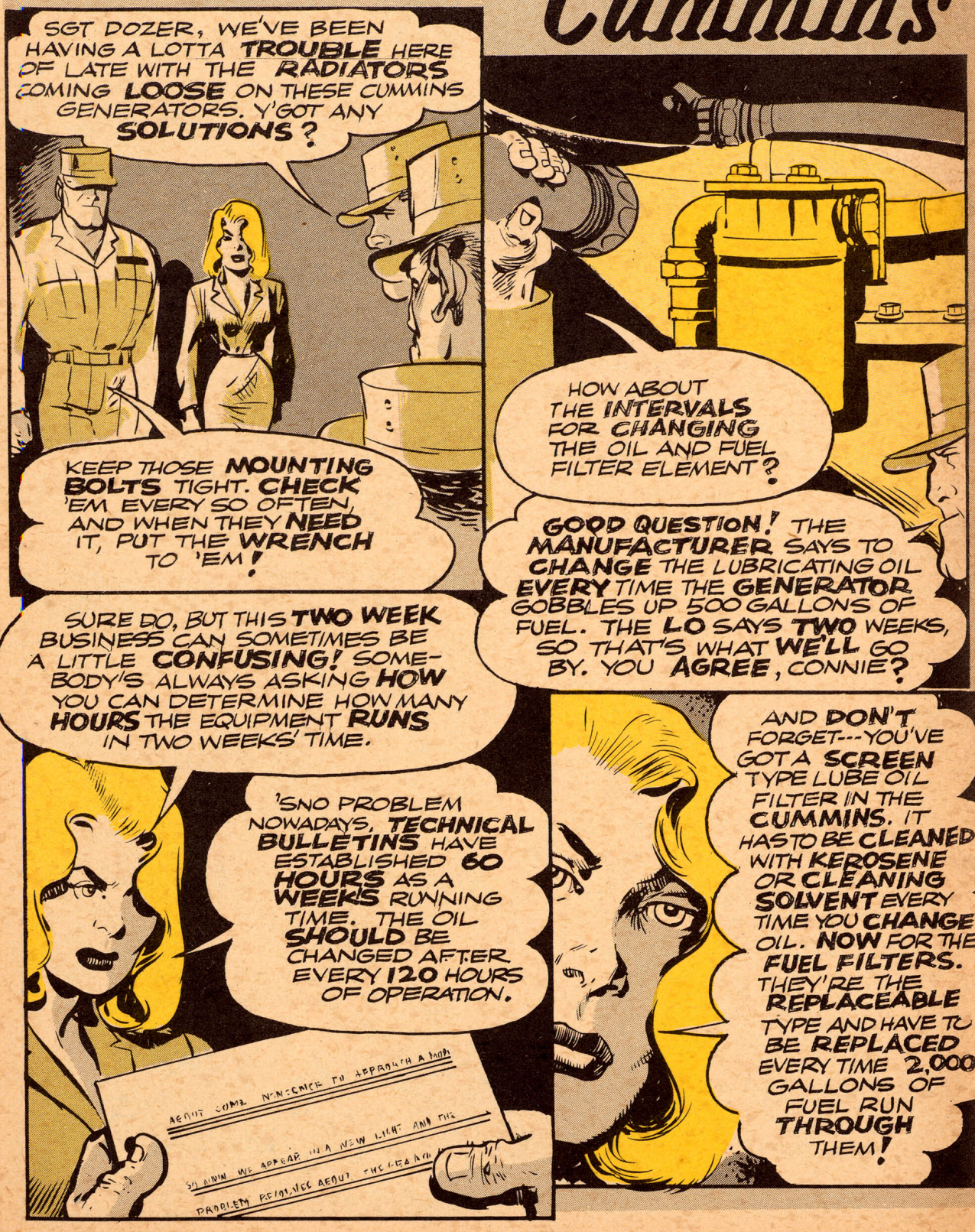


There was a young cable named **CORN**...
Who awoke frayed and kinked up one morn.
He suffered a strain,
And parted in twain—
Now his driver's an angel **NEW-BORN**.



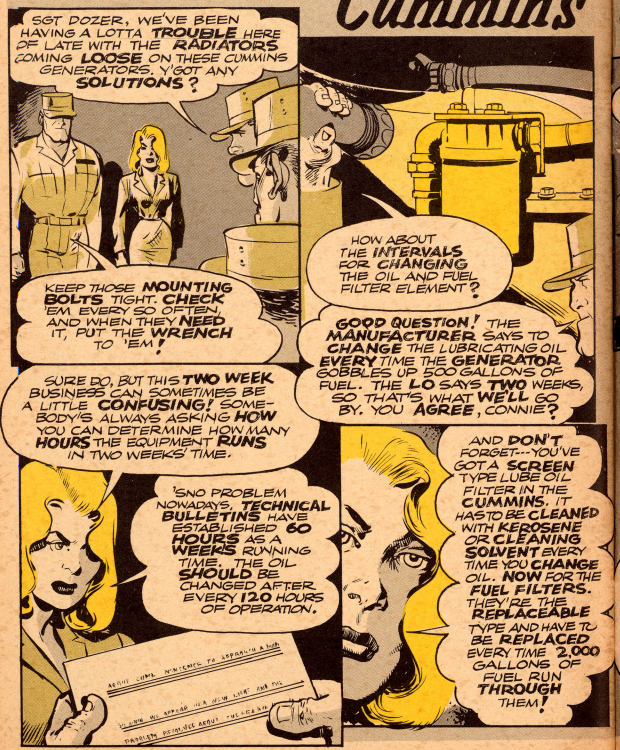
On 150 KW Gens here are some...

Cummins



On 150 KW Gens here are some...

Cummins and Goin's



and Goin's

BUT DON'T LET 'EM GO THAT LONG BEFORE GIVING 'EM A LOOK-SEE. YOU OUGHTA INSPECT THE FUEL FILTERS OFTEN. THEY MIGHT NEED CHANGING SOONER!
HERE'S WHAT THE MANUFACTURER OF THESE CUMMINS DIESELS HAS TO SAY ABOUT FUEL SYSTEMS.
"Dirty filters or elements are practically useless in the fuel system. Although suggestions are made for periodic servicing, the periods must vary with the engine load (fuel consumption) and quality of fuel. As soon as a fuel filter gets dirty, it restricts fuel flow in varying degrees."
GOSH, BUT THOSE ARE HIGH POWERED WORDS. BUT WHAT DO THEY MEAN?
GOT IT STRAIGHT?
IN PLAIN LANGUAGE, SON, IT MEANS KEEP A CLOSE TAB ON YOUR FUEL FILTER. AND WHEN IT GETS DIRTY, MAKE SURE YOU CHANGE IT IN A HURRY. THAT'S THE BEST WAY OF MAKING SURE YOU HAVE CLEAN FUEL RUNNING THROUGH YOUR DIESEL'S INNARDS AT ALL TIMES!

The Right Height

Dear Sgt Dozer,

We had one of those uncomfortable all-day silences here recently when one of the boys took a Cat mounted on a low-boy under an underpass that didn't have quite enough clearance.

The Cat looked like somebody was trying to make it into a sandwich.

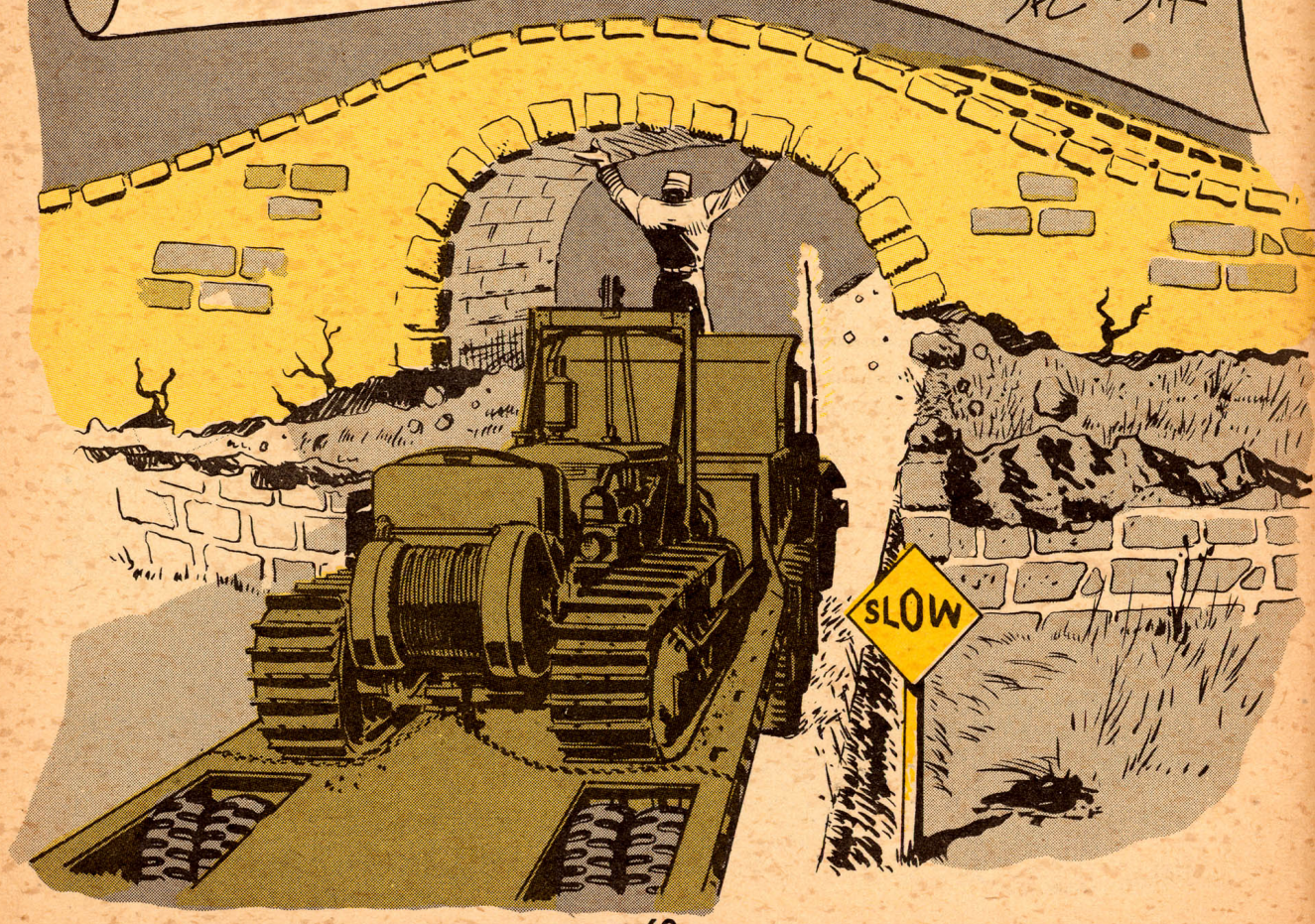
To prevent that happening again, we figured out this fix:

Mount an ordinary bamboo fishpole (or something like) on the right front grill guard of the tractor or truck you're using to haul the Cat. Rig the fishpole so it sticks up about 8 inches above the load.

Approach doubtful underpasses slowly and watch the pole. If it clears, so will the Cat. If the pole almost—but not quite—clears, get a ground guide out there to take you through.

'Course, if the pole doesn't clear at all, you go somewhere else.

SFC S.K.



Don't Fool With Diesel Fuel

Dear Sgt Dozer,

One of our boys is in the hospital with burns because he didn't think diesel fuel was anywhere near as dangerous as gasoline.

Happened while he was trying to weld up a diesel fuel tank to service tractors in the field. He was very surprised and burned slightly rare when the end blew out—and just missed his head.

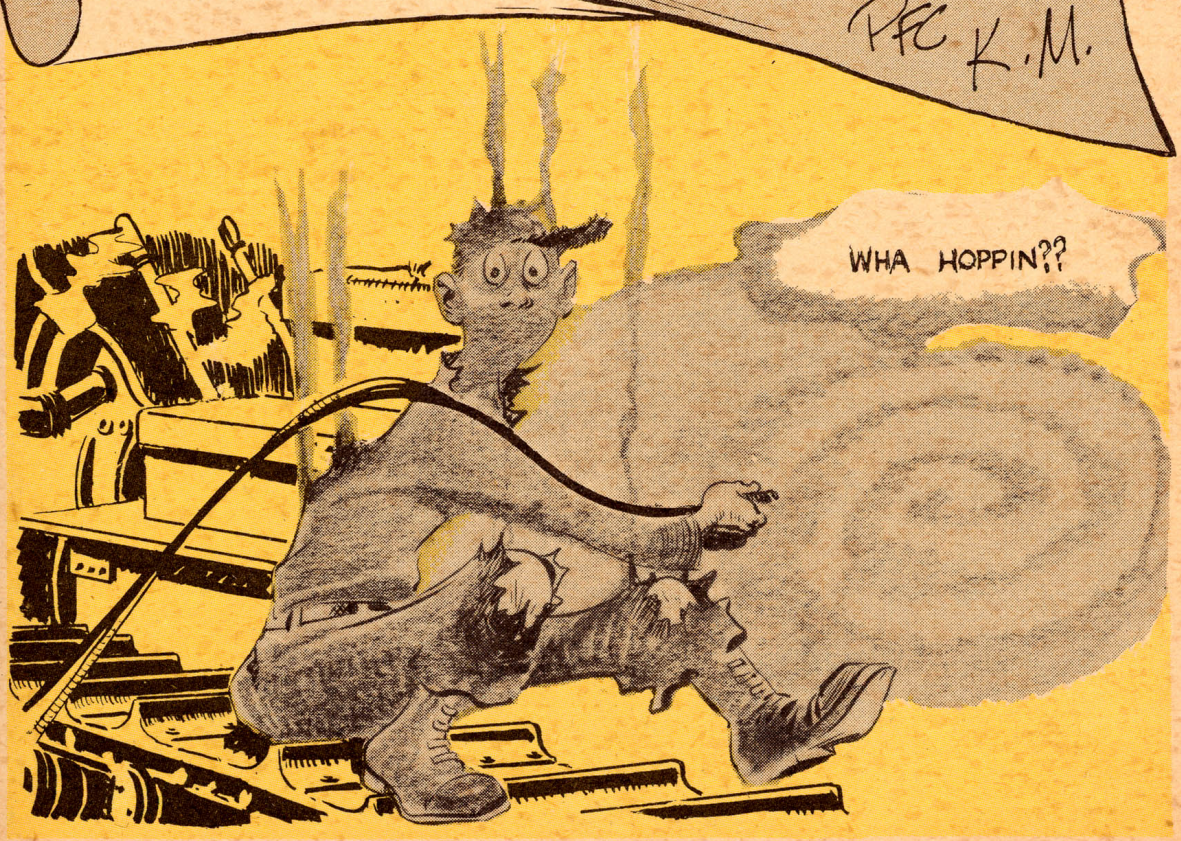
It's easy to think dieselene is a lot safer than gasoline because it doesn't take fire from a spark like gasoline does.

What this boy forgot is when dieselene has been heated, like running against a red-hot weld, it's got the explosive power and force of gasoline. That's what reared back and slapped him in the hospital.

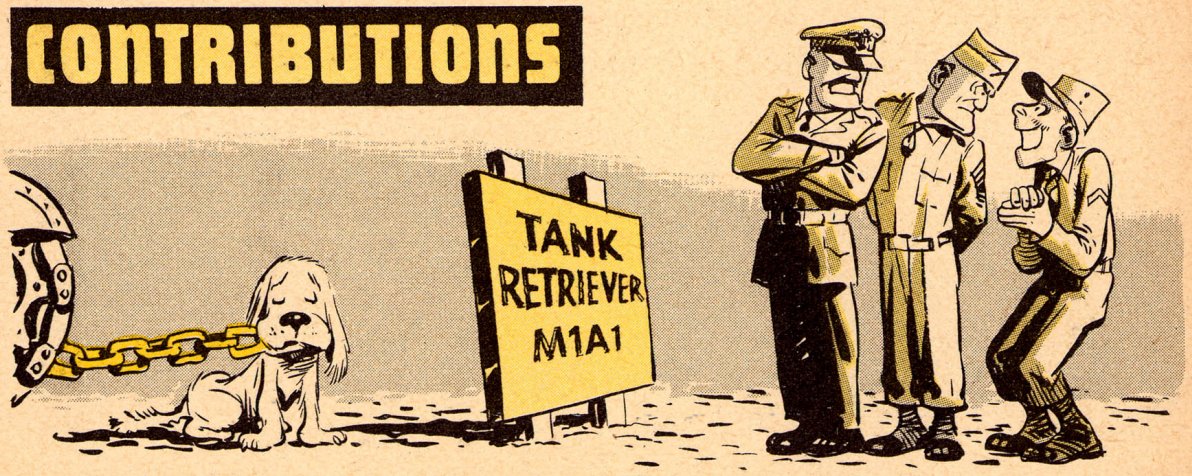
Any time you're welding on a diesel fuel tank, give it exactly the same treatment you would a gasoline tank. Steam it out or run it full of water, and be mighty sure there's no fuel left in it.

Once it gets hot it'll fume up and be just as dangerous as gasoline.

PFC K.M.



CONTRIBUTIONS



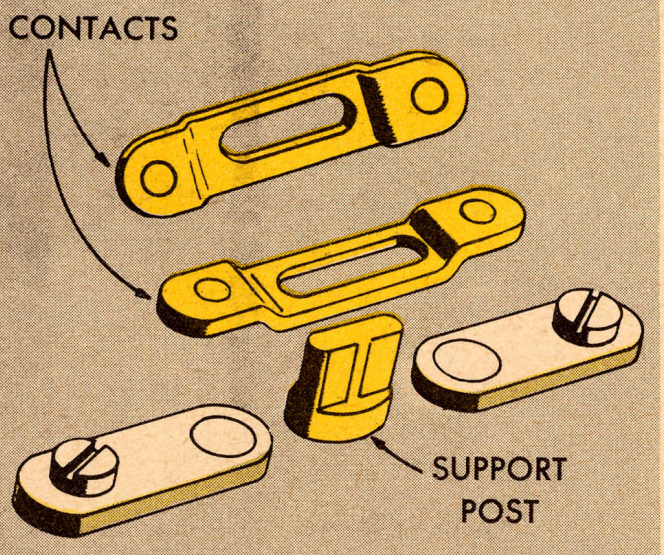
FUSE BLOWER

Dear Editor,

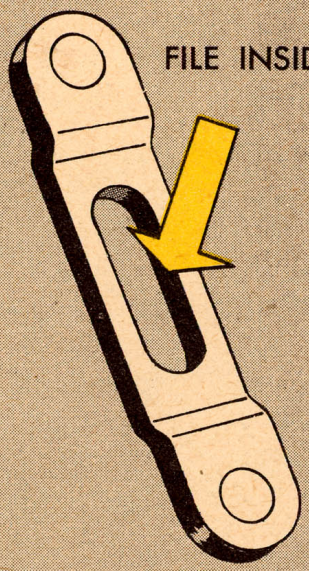
The guys in supply sure get to know us what with our always needing fuses for the missile hydraulics and launcher hydraulics in the Nike 1 launchers.

Seems the bakelite relay armature posts in the motor-control-relay expand after a time. That means the contacts don't seat right when the relay is energized. So the fuses are blown by the excessive juice running through the circuits that have been closed by the improperly seated contacts.

But, there's a way to beat the problem.



Remove motor-control-relay panel-assembly. Then take off the contact protecting cover. See which of the contacts binds against its armature-support-post.



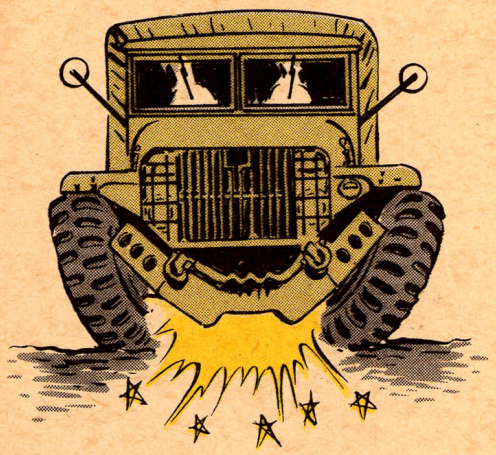
Work a file along the inside of the mounting holes until you get a free fit.

Use carbon tet to clean burned contact points and an artist's camel hair brush to get rid of dust. Reassemble the parts and you're in business.

Cpl Gerald F Allen
Marlton, N. J.

(Ed Note—That's one way to save fuses and keep in operating shape. I know an easier way, though. Use the new relay that Ordnance has for launchers with serial numbers running from 1001 to 1960. Its Ord Stock No. is Y005-8169968. The new relay is hermetically sealed, which is another way of saying it's air and moisture proof. 'Course...you've got yourself a good fix if the new relays are slow in getting to you. It's lots better'n blowing fuses.)

SAGGIN' SPLASH SHIELDS

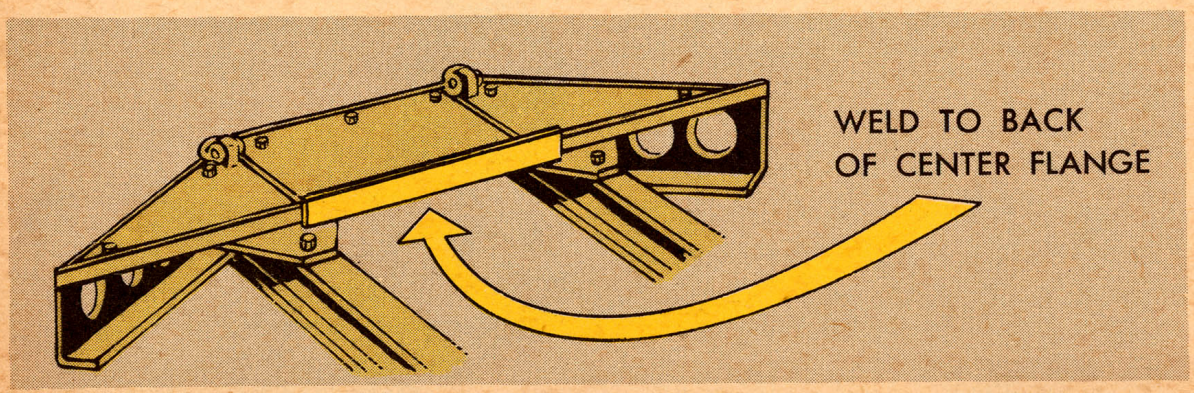


Dear Editor,

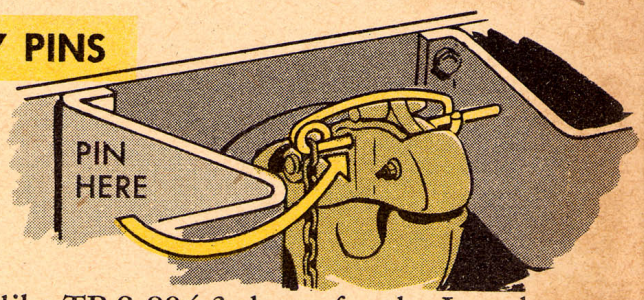
We've been having a slew of our G749-series 2½-ton trucks coming in with the front bumper center splash shields saggin' sorta droopy-drawers like. (Manufacturer's Part #YT-2289-169, and you can't get 'em, on accounta they're not stocked by Ordnance.) So, you gotta fix your old ones up. We straighten 'em out and then weld a ¾x¼-inch bar across the back of the flange. No more sag.

WO Robert B Phillips
Jefferson Barracks, Mo.

(Ed Note—Stands to reason, if a part will bend as issued, it will bend after repair, unless you reinforce it. Better get in a UER right away for the right people to see.)



SAFETY PINS



Dear Editor,

As you probably know, the safety cotter pins provided for the G749-series truck pintles present a considerable problem.

When the time comes to hook up a trailed load, you generally don't have pliers and screwdriver handy to spread the cotter pin after you shove it through the pintle hook. You can't spread it with your fingers, and most of the time, if it's not spread, it comes out on you enroute, leaving you with no safety on your pintle hook. Besides, if it's spread right, you still can't take it out without tools when you want to drop your load.

We've solved the problem with a pin bent up out of ⅛-inch gas welding rod. (Any No. 9 wire, or even a heavy coat hanger will do.) We shape this pin just like TB 9-804-3 shows for the Jeep, but we make it king-size for the GMC.

This pin can be slipped into place and locked with the fingers alone, yet it holds just as well as any cotter key.

We attach 'em to the little chain, same as the cotter key was, so they'll be there when we need 'em.

MSgt R. B. Slavens
Jefferson Barracks, Mo.

(Ed Note—Just so. No question about this clip being easier to use without tools than any cotter pin, and it will hold safely too.)

IT'S IN THE BAG

Dear Editor,

We have established an S.O.P. that'll keep those required forms in our vehicles at all times. An envelope is carried in the vehicle which contains the following forms: Standard Form 91, DD Form 518 and the pertinent lube order for the vehicle. FSN 7530-238-447 will get you this 6½-in by 9½-in envelope.

Lt Col P. L. F.
Fort Lewis, Wash.

(Ed Note—For a waterproof envelope use FSN 8105-274-2389, Bag, Paper, unbleached, Kraft, flat bottom type, greaseproof, water-proof, JAN-P-117, Amend 2, grade A, size 6x10 inches).

Connie Rodd's BRIEFS

Plug out

The latest...now you're to take that flywheel housing drain plug out of **all** your M-series trucks, unless you're fording or operating in real muddy terrain. Stick it in your glove compartment for when you need it.

Heads down and holler!

A swinging tank turret can peel a driver's head like a banana, or knock him silly as a sand flea. Tank commanders and gunners—when you're going to traverse—make sure the driver is clear and his seat is down. Then, **SOUND OFF**...let him and everybody around know what you're going to do, so they won't get their noggins in the way.

Mule train

Course...you know the M21 .50-cal pack hanger outfit is for use with pack animals. So, unless you have some four-footed friends grazing nearby, you have no use for the hangers. You can turn 'em in as excess equipment—the hangers, that is.

Cracks must go

A must for you 40-mm AA guys: Before firing, and when cleaning the breechblock, check the breechblock stops for cracks. If you find any, call on your support unit to replace the stops.

Rusty cleaner

Hold it a minute, pal, before you pour that engine cooling system cleaning compound (FSN 6850-272-9327) into that radiator. Word is that the stuff, if used too much, can go a long way toward rusting the metal surfaces of the cooling system. You shouldn't use it for routine cleaning when you drain or add anti-freeze. Use it only when your radiator is clogged or your cooling system rusted.

TIGHTEN
TIGHTEN
TIGHTEN
TIGHTEN
TIGHTEN